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How to Ergonomically Optimize Your Workspace

We spend a lot of time sitting at our desks every day, and while it may not look like it, it can wreak havoc with our bodies. Here's how to set up a healthy, ergonomic workspace to keep you comfortable and injury-free.

Some of you may not realize how unfriendly your workspace is to your body, while others of you have already started experiencing repetitive strain injury (RSI) from an improperly set up desk. A number of different factors can cause injuries (yes, even at a desk), and they may not always be obvious—for example, slouching and keeping your shoulders tense can not only cause pinched nerves in your shoulders, but even hurt your wrists. If you haven't given a lot of thought to the comfort of your workspace, it's probably time to give it an ergonomic makeover. Here are the most important things you'll want to go through and change—both in your office hardware and in what you do when you're working.

For the purposes of this guide, we're going to assume you're using a sitting desk. If you really want to go all-out, many people (including some of the Lifehacker editors) have found standing desks to be an incredible boon to their comfort, and there are tons of great DIY solutions out there. If you're looking for a big change, I'd recommend reading up on that too—though for now, we're going to focus on the more traditional sit-down workspace.

Why and How I Switched to a Standing Desk

Build a DIY Wide, Adjustable Height IKEA Standing Desk on the Cheap

What Your Hardware Needs to Do

Build Your Own Custom Ergonomic Desk

While you could go all out and build a custom ergonomic desk, all you really need to do is make a few changes around your workspace. Here's where you want all your hardware positioned, and why.

Your Chair

People have been talking about ergonomic office chairs like the uber expensive Herman Miller Aeron line for years now, but there's no need to go plop down a bunch of cash just to be comfortable. Nowadays, you can grab much cheaper ergonomic chairs from a place like Staples or even upgrade your old chair with some DIY fixes. Note that some things are DIYable; some are not. Here are the things you need to make sure your chair has:

- **A comfortable cushion**: One of the most basic and obvious things you need is a comfortable place to sit. A hard chair isn't going to do you any good; a proper office chair with a cushion is going to keep you much more comfortable. After all, you are spending hours at a time in this chair. Breathable fabric is great too, if possible.

- **Arm rests**: Again, this is something you probably can't DIY, but you should have some arm rests on your chair for when you aren't actively typing. They should be low enough that your shoulders stay relaxed and your elbow bends at around a 90 degree angle.

- **adjustable seat height**: It's a lot easier to adjust your seat height than it is adjust your desk height. You want to be able to adjust your seat so that your thighs are parallel to the floor and your feet are flat on the floor. You also want to have your arms at the height of the desk (or the part of the desk containing your keyboard or mouse).

- **Adjustable back rest height**: This is one of the first things to go in the cheaper office chairs, and it was one of the biggest mistakes I was making in my own setup at home. You should be able to adjust your chair's back rest not only up and down, but its angle as well. Generally, you want the angle to be pretty far forward to keep your posture up—the further back you put it, the more likely you'll be to slouch. You'll also want the back rest of your chair to have...

- **Lumbar Support**: You have probably heard this term a lot, but may not even know what it means. Essentially, our backs are slightly curved inward, meaning the backs of our chairs shouldn't be directly vertical. Instead, they should support our lower backs by coming

forward. The graphic to the right illustrates the idea well: the left half is a chair with no lumbar support, the right image has this $10 support added on. Of course, you could just as easily strap a rolled-up towel or something similar on your chair, but you need that support if you don't want to mess up your spine.

- **The ability to swivel and/or roll around**: It's hard to DIY this particular feature, but a chair with wheels and the ability to swivel is actually more of a necessary feature than you may think. When you need to reach for items on your desk, you can put strain on your body—so widening the area you can easily reach (and see without turning your head) can do wonders.

Your Desk

Just plopping your mouse, keyboard and monitor on your desk is not going to give you a healthy working setup. Here's how to make sure everything's set up in the right position.

Mouse and Keyboard Placement

You want your mouse and keyboard to be as close together as possible, with the alphanumeric part of the keyboard centered on your desk. This means you want to pay attention to the keys, not the keyboard itself—most keyboards are asymmetrical, with the number pad on the right. Instead of putting the whole keyboard in the center of your desk, keep an eye on the "B" key. You want that to be directly in front of you and in the center of your desk (or, rather, where you'll be sitting at your desk).

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Whether your desk has a sliding keyboard tray or not shouldn't be much of a problem, as you have both an adjustable seat (right?) that can put the keyboard and you can adjust your monitors in a myriad of ways (see below). If you do have a keyboard tray, make sure your mouse is on the tray with it, not on the desk itself. You want your keyboard and mouse to be at the height where using them causes your elbows to be

bent at or near a 90 degree angle, so you aren't bending your wrists to type.

Monitor

While most monitors aren't super adjustable on their own, we've featured numerous DIY monitor stands that are ridiculously easy to build. I'm using the door stopper monitor stand myself, and it works perfectly. You want the point about 2 or 3 inches down from the top of the monitor casing to be at eye level. You also want the monitors to be about an arm's length away from where you're sitting.

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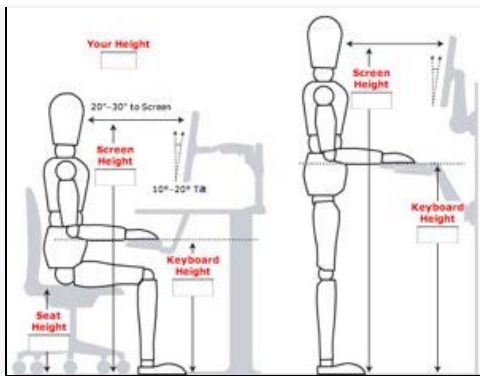
DIY Dual Monitor Stand

Make a DIY Monitor Stand on the Cheap

The trickier half of the equation is to eliminate glare on the monitors. While some monitors can tilt, many can't, and you're likely going to solve this problem with strategic lighting placement instead of monitor tweaks.

Desk Height

Plan an Ergonomic Workstation

As you're setting up all your hardware, you may want to take a look at this previously mentioned workstation planner. It will help you measure out the proper seat height, keyboard height, and monitor height for your setup, so you can double-check and make sure you've done everything right.
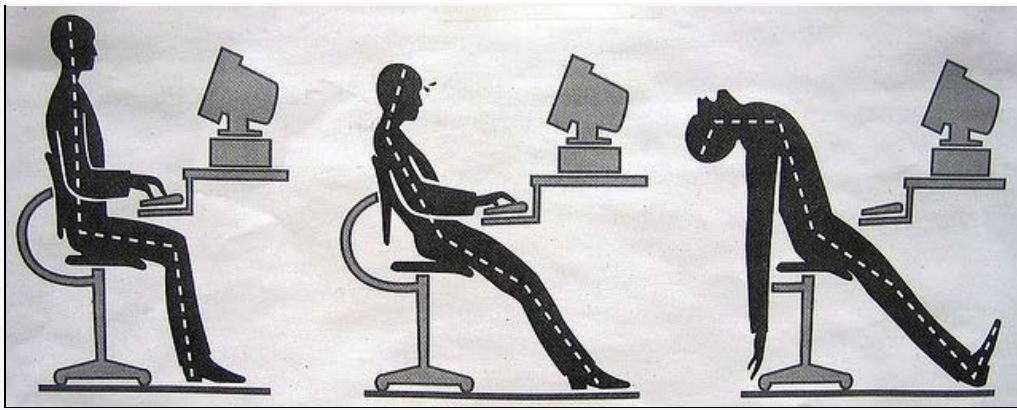
Everything Else

The last thing you'll want to make sure of is that the most important objects at your desk are easily reachable. You shouldn't have to reach for anything often, so use the space you have to store the things you need access to (note in the photo of my keyboard and mouse above, my Droid is the next closest thing). Everything else can go in drawers or other parts of the office. The swivelling and/or rolling chair helps with this: if your chair swivels, you have a larger space for which things are in direct reach.

You Need to Make an Effort

It doesn't matter how "ergonomic" your hardware may be, you still need to be pretty mindful of your body when you work or you'll never reap the benefits of your properly set up workspace. Here are the things you'll want to pay attention to every day to make sure you're being nice to your body.

Posture

How Can I Improve My Posture?

We've talked about good posture before, and if you've done everything right up until now, you're in a fairly good position: your keyboard is directly in front of you and the right level for a 90 degree bend in your arms, and your monitor is at eye level so you shouldn't be craning your neck up or down to see. In addition, you should always make sure that you:

- Don't slouch: this is an obvious one, but is pretty hard for some of us to remember. I found the biggest problem for me was that my seat back was much too far reclined. You want to be sitting up, with your back at about a 100 degree angle to your legs. By setting my seat back all the way forward and making sure I lay back against it, I'm finding it much, much easier to avoid slouching.
- Keep your elbows close to your body and keep your wrists straight. This means you can't be reaching for stuff, as I mentioned before—if you find your wrists or elbows aren't playing nice, it's probably because your mouse or keyboard is in the wrong position.
- Keep your shoulders and back relaxed: tense shoulder and back muscles will cause all sorts of problems. Make sure they're relaxed, which is probably going to require you *not* using the armrests when you're typing. Your keyboard should already be at the right level where you don't *need* to use the armrests, even if it goes against your instincts.

Photo by Joe Loong.

## Take Frequent Breaks

Reduce Computer-Caused Eye Strain with the 20-20-20 Rule

It's no secret that sitting in one place staring at the same screen all day is bad for you. You want to generally take at least a five minute break away from your screen every half hour to hour. You'll also want to take some time every 20 minutes or so for the 20-20-20 rule: Every 20 minutes, take 20 seconds to look away from your screen and at something 20 feet away from you.
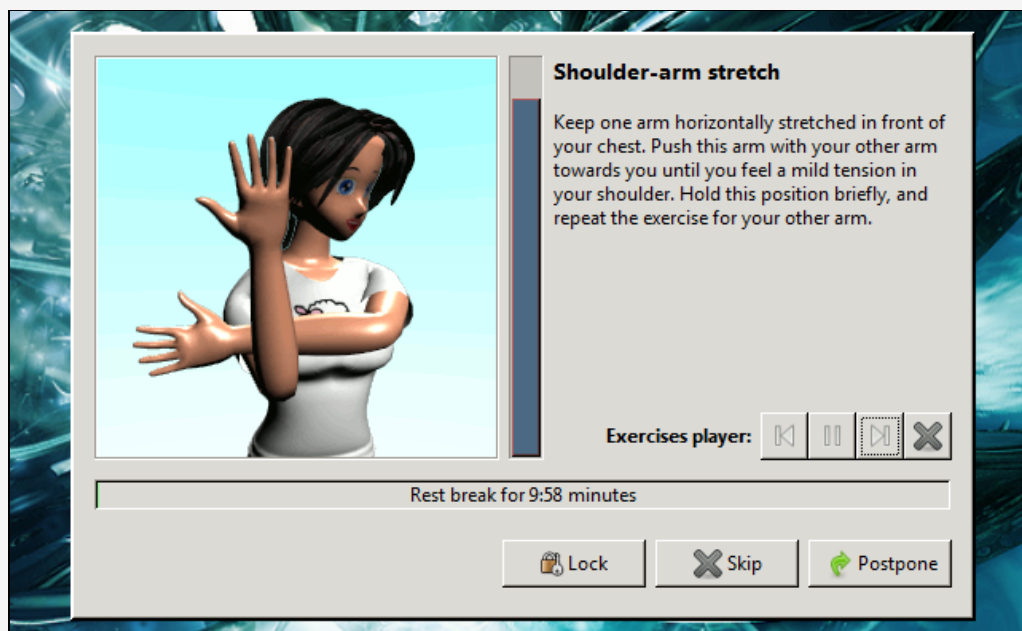
The best way to make good use of your breaks (and remember to take them) is with the previously mentioned Workrave and AntiRSI, for Windows/Linux and Mac OS X, respectively. Both apps will notify you when its time to take a break, and Workrave will even suggest some good stretches to do to keep your body loose and RSI-free (though we've shared some of those with you as well). Previously mentioned EyeDefender will also help schedule some quick breaks that'll ease the strain on your eyes. It's something extremely simple you can do that will make a world of difference.

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Avoid Eye Strain

Taking those breaks will help your joints and your muscles, but also help relieve some of the eye strain you get staring at your computer all day. Minimizing glare with correct monitor placement will also help, but there are a few tweaks and pieces of software that might help you out. The first thing to do is make sure you have ClearType turned on in Windows, and increase your monitor's refresh rate. I'm also a huge believer in programs like Flux, which will keep your monitor much more eye-friendly at nighttime (if you tend to work later into the evening).

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Avoid computer eye strain
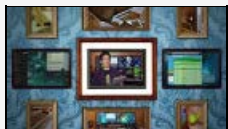
What We Use: Whitson Gordon's Favorite Gear and Productivity Tips

These are but a few of the most important tips to creating a healthy, comfortable workspace. They may seem simple or inconsequential, but they'll make a world of difference. Got any of your own tips for an ergonomic workspace? Share them with us in the comments.

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