

Deskbound

Standing Up
to a
Sitting World

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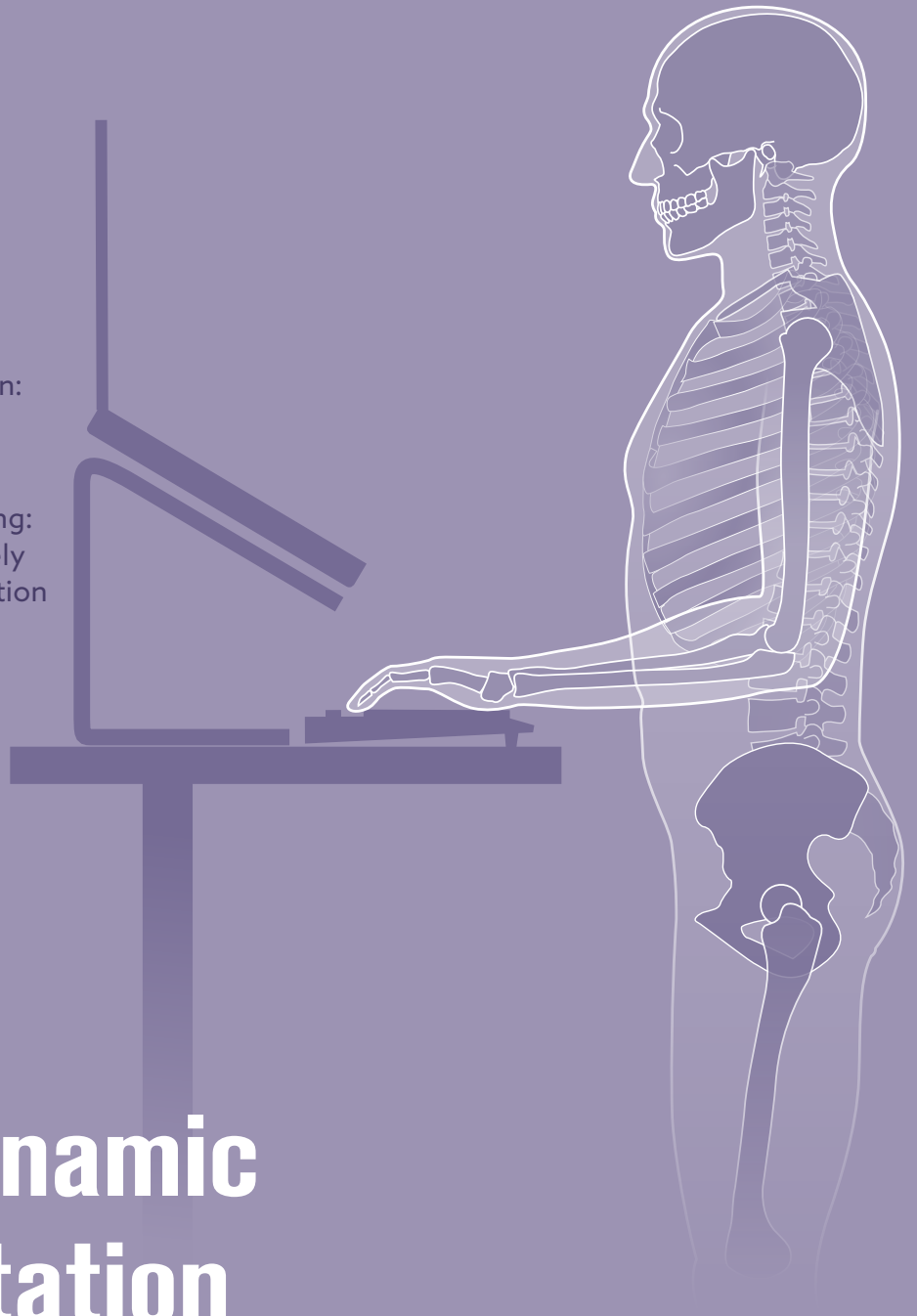


Section 4

Standing Workstation
Guidelines

The Active Workstation:
Creating a Movement-
Rich Environment

From Sitting to Standing:
How to Transition Safely
to a Standing Workstation



The Dynamic Workstation

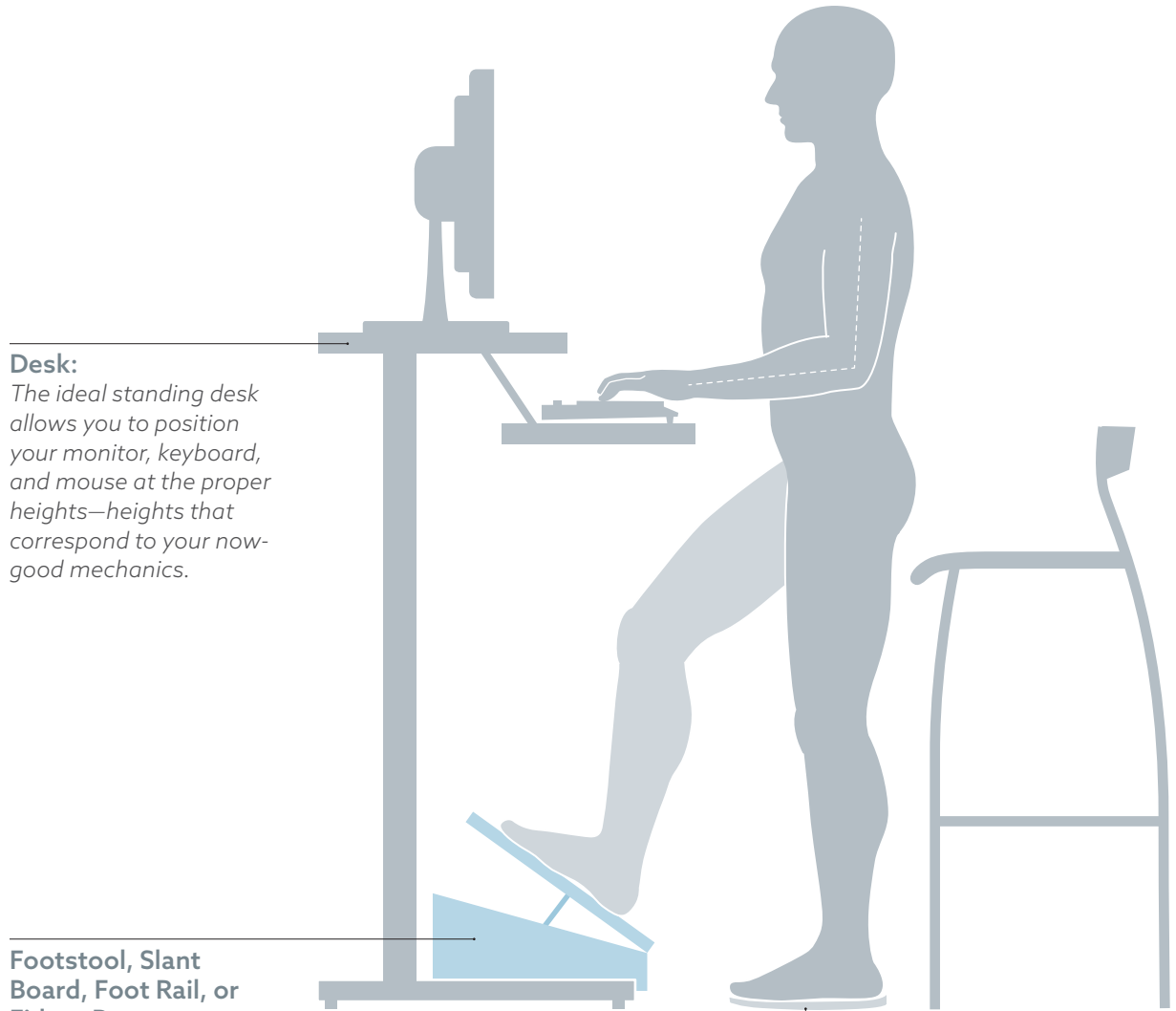
Standing at work is a far better option than sitting because standing is a gateway to movement. But transitioning to a standing desk is a more complex process than just trading one piece of furniture for another. A successful standing workstation must be set up correctly, it must create opportunities for movement, and you must make the switch gradually to give your body time to adapt. We have broken this section into three chapters to help you make the transition a successful and lasting one.

First, we discuss the ergonomics of your standing workstation, from the proper height for your monitor and keyboard all the way down to the best type of shoes to wear. This advice is intended to create an environment that makes it easy for you to maintain solid body mechanics throughout your workday.

Second, because standing still like a statue all day is not the goal, we offer several standing positions that you can cycle through. Routinely changing your position keeps your muscles engaged, keeps blood flowing throughout your body, and makes standing more manageable throughout the day. Next, we cover a host of actual movements that you can perform to prevent some of the harmful side effects of inactivity, which is the true benefit of transitioning to a standing desk.

Finally, we provide a simple blueprint for safely and effectively transitioning from a sitting workstation to a standing one. This last chapter addresses the concerns that go along with making the seemingly dramatic switch to a standing desk.

Standing Workstation Setup



Desk:

The ideal standing desk allows you to position your monitor, keyboard, and mouse at the proper heights—heights that correspond to your now-good mechanics.

Footstool, Slant Board, Foot Rail, or Fidget Bar:

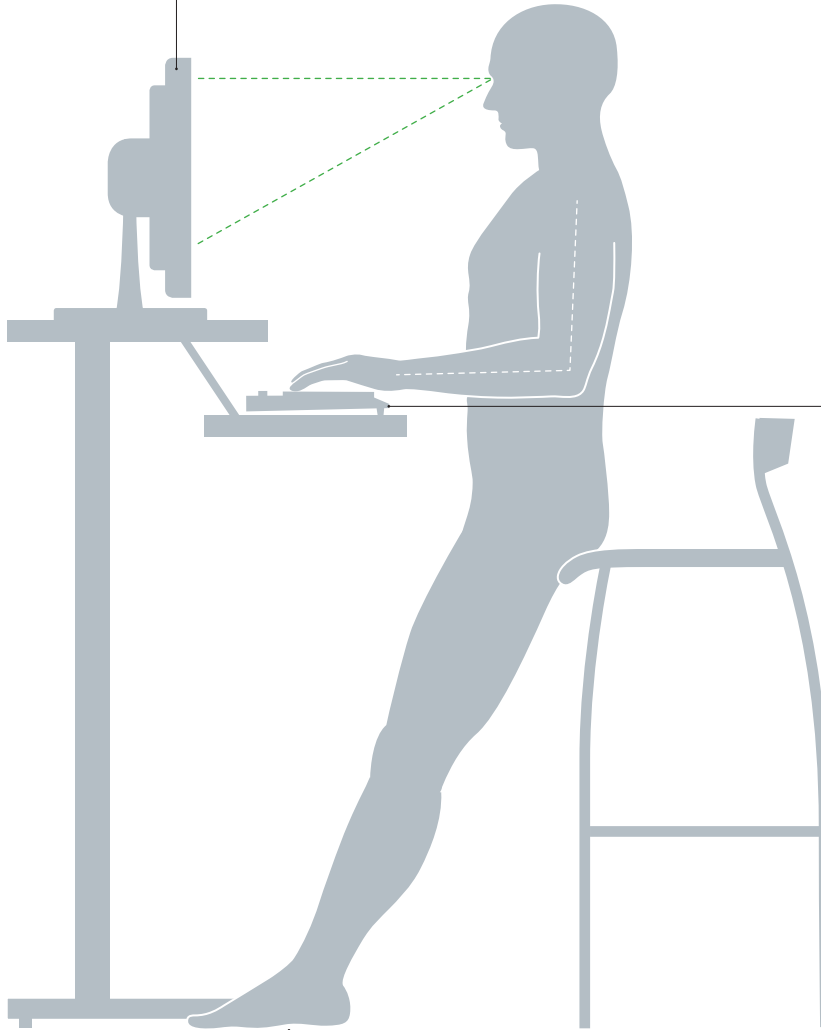
Resting your foot on an elevated surface automatically unloads many of the passive forces tugging on your spine, making standing more sustainable. Use a footstool, slant board (shown), foot rail, or fidget bar that reaches to about the middle of your shin.

Shoes:

Being barefoot is the best option, but it's unrealistic for most people. So the ideal shoe should make you feel as though you are barefoot. Consider working in a shoe that has a flat sole and just a little bit of cushion. Avoid high heels, restrictive dress shoes, and flip-flops whenever possible.

Monitor:

Position your monitor so that the top of the screen is aligned with your eyes. Consider tilting it upward so that you can see the entire screen better. You want your face to be about 18 to 30 inches from the monitor, which will allow you to see the whole screen without adjusting the position of your head.

**Keyboard and Mouse:**

To find the right height and distance for your keyboard, go through the steps to reorganize your spine and bend your elbows so that your forearms are roughly parallel to the floor. Position your keyboard and mouse directly underneath your hands. Focus on keeping your shoulders organized and your elbows and wrists in clean, straight lines.

Stool:

The stool is used primarily for leaning against, not for sitting on. For this reason, you want a stool that has a hard seat with a squared edge and a wide enough base that it doesn't roll or fall backward when you lean against it. A simple bar-height metal or wood stool should work.

Floor:

If you work on concrete or another hard surface, consider using an anti-fatigue mat or wearing a shoe with a little bit of cushion. If you work on soft carpet, wear a flat shoe with little or no cushion or, better yet, work barefoot.

Standing Workstation Guidelines

Before we delve into the details of setting up a standing workstation, we want you to put down this book, stand up (if you aren't standing already), remove your shoes, and assume the organized spinal position. (If you need to, revisit the step-by-step guide on pages 82 and 83.) This is the primary position that you want to adopt while standing at your desk. Instead of changing your shape to fit your desk, you are going to change your desk to fit your optimal shape.

For years, we've seen people build elaborate standing desk setups that were based on really poor posture. For example, the monitor was too low, which forced them to look down. Or the desk was too high, which caused them to reach for the keyboard and put continual strain on their shoulders. While no desk setup can be reduced to an exact science, the key to happiness at work is to ensure that your desk supports and reinforces your improved mechanics. In a nutshell, a desk that fits your organized body makes your transition from sitting to standing and moving easy.

Misplaced Precision

We know and have great respect for many ergonomists and their work, much of which has significantly impacted and influenced this book. We have found, however, that some office ergonomic consultants suffer from what we call "misplaced precision." When Juliet was still practicing law, the firm's ergonomics consultant moved her mouse 3 millimeters to the right, gave her a curved keyboard, and said that she was now in a good ergonomic position. There was no discussion of posture or body mechanics, and she was still slouching like a shrimp in her chair. The problem is, there is no fancy keyboard, keyboard tray, or track ball mouse that can combat your poor sitting positions. Keep an eye out for misplaced precision.

Flat Shoes Are the Best Choice

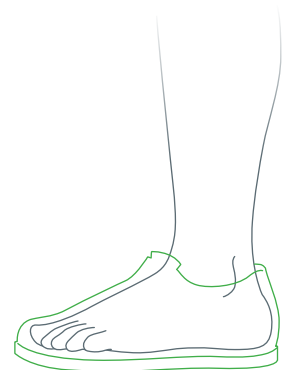
This standard is not complicated but is potently effective. When you wear shoes, flat ones are your best bet. Flat shoes are an integral part of a functional standing workstation because they have a dramatic positive impact on posture and movement. And it is an irrefutable fact that the geometry the body was designed to support has the heel flat on the ground.

We've talked about how the majority of the kids in our daughter's elementary school class lost their perfect running mechanics during the course of their first-grade year, and part of the reason was the shoes they were wearing. The same holds true for adults. You want to cancel out any time spent in a shoe that shortens your tendons and connective tissues and kills off the range of motion that your feet are designed to wield. Our entire physical structure evolved with the foot bare, not confined to a shoe with an elevated heel. Do your fingers touch while your hand is at rest? Nope. Well, guess what? Your toes shouldn't be touching, either.

As described in Section 3, wearing shoes that don't support your biomechanics can be devastating. For example, if you wear heavily cushioned shoes at your desk, you are more likely to shift your weight onto the outsides of your feet as you slop around looking for a supportive position. Cushioned shoes also make you more prone to allowing your arches to collapse into the support of the shoes, impairing the mechanics of your feet and ankles. The arch of your foot is actually a non-weight-bearing surface. Think of any arch you see in nature or in architecture; nothing is holding up that arch in the middle. The same applies to your foot's arch; it doesn't need anything to hold it up. Your feet are the foundation upon which your spine is built. Setting your spine atop collapsed arches is like building a castle on sand.

High heels are an especially big problem. When a shoe fundamentally changes your natural, protective biomechanics, it puts you at increased risk for foot and ankle issues, low back pain, pelvic floor dysfunction, and more. And the first thing you do when you feel uncomfortable while standing in heeled shoes is to sit down! If that isn't enough to make you change your footwear habits, ask yourself if you would allow your child to stand on a 30-degree slope all day long. Assuming that the answer is a resounding "no," it's time to ditch your everyday high heels. If you are invited to the Oscars, we fully support you wearing some amazing stilettos. We simply recommend that you minimize your exposure whenever possible. The reality is, if you fail to address your footwear, you are setting yourself up for a future breakdown.

Flat shoes are much better for your biomechanics. A flat shoe has "zero drop"—meaning that the heel is not raised above the forefoot—and it should have enough cushioning that you won't injure your feet when walking across a gnarly gravel driveway. What you want to avoid, or wean yourself away



from, are shoes with the heels raised higher off the ground than the forefeet. Have a look at the shoes in your closet. We suspect that the vast majority have some sort of a heel. Most running shoes have heels over half an inch high, as do most men's dress shoes. That trend is changing, however, and now there are many companies offering flat *and* fashionable shoes.

The ideal is to flex your indigenous mechanics and go barefoot while standing at your desk, but we recognize that this is not realistic for anyone who doesn't work from home. If you can't work barefoot, choose the flattest shoe you can find with minimal padding. Remember the 1980s, when women walked to work in their comfortable shoes and switched to high heels once they got to the office? If you simply cannot give up your high heels, we recommend switching that model around: wear your heels to work and then stand at your desk throughout the day in flats or no shoes.

If you've been wearing heeled shoes your whole life, there is a good chance that you lack normal ankle range of motion, have compromised arches, and/or have valgus knees (that is, you are knock-kneed). For you, the transition to flat shoes will take some time and investment. If you are exercising in heeled training shoes, we recommend a gradual transition to flatter and flatter shoes until you feel comfortable training in zero-drop shoes. For everyday wear, we recommend that you get a shoe that is as flat as possible, with minimal cushioning, and focus your attention on rebuilding your feet with Prescription 13 on page 334.

Here's a set of criteria to steer you down the right path. Your shoes should be:

- Flat-soled
- Adequately padded to protect the bottoms of your feet
- Nonrestricting, with enough space for your toes to spread out naturally
- Flexible enough that you are able to bend them

Take this list with you when you go shopping, try on the shoes that you're thinking of buying, and see if they pass muster.

The Floor Matters

Think about the story of Goldilocks and the three bears. Goldilocks tries all three of the bears' beds. One is too hard and one is too soft, but the third bed is just right, and that's where Goldilocks decides to rest. This same principle applies to the flooring at a standing workstation. The floor should not be too hard or too soft, but just right. The hardness of the floor will have a measurable impact not only on how you feel throughout your workday, but also on how

well and how often you move. How hard is “just right”? Everyone has a different tolerance level, but we’d like to offer a few common-sense guidelines.

A friend of ours switched to a standing desk and then called us to ask our advice about why his feet were so sore at the end of the day. When we asked about his workspace setup, he reported that he wore dress shoes and stood on a concrete floor. We recommended that he switch to a shoe with a bit more cushion, and his foot pain went away immediately. You see, his setup didn’t allow for enough movement of his feet during the day. Hard surfaces are okay; you just have to move your feet a lot more often.

If the floor beneath your desk is too hard, another option is to purchase an anti-fatigue mat. These mats are squishy enough to allow your feet to make small movements, but not so squishy that you can’t find a stable position.

A floor that is too soft can make it challenging to find a stable foot shape. Try standing on your mattress for 10 minutes and prepare to be amazed at the ways your body deals with that squishy standing nightmare. The good news is that most carpets fall into the “just right” category.

The best advice we can give you is to monitor your setup when you first make the switch to a standing desk. If you’re standing on a hard surface and your feet begin screaming at you an hour into your workday, try incrementally adding some cushion until the situation improves. Just make sure to check your position often and make adjustments as necessary.

Anti-fatigue mat



Flat shoes with a little bit of cushioning



A Footstool, Slant Board, Foot Rail, or Fidget Bar

Have you ever bellied up to a bar? Well, assuming that most of you have, you know that there is a rail at the base of the bar—that thing you put your foot up on while standing at the bar. It turns out that bar owners are pretty smart. They learned early on that if people had a place to rest their feet—on the rail—then they could stand and drink longer. “Bar height” makes more sense now, doesn’t it? Bartenders were probably the first ergonomics experts on the planet. A standing-height drinking table that you can lean on, with a place to rest your foot? Genius.

Propping one foot up on a rail is the easiest way to remove the load from your lumbar spine (and reduce standing-related losses in alcohol sales). This pose—we call it the “Captain Morgan,” for obvious reasons—automatically puts your pelvis in a better position, which means that you don’t have to work as hard to stay organized. Simply put, a foot rail makes it easier to stand comfortably for longer periods. In fact, having some kind of foot support is so critical that we don’t consider a standing workstation complete or acceptable if it doesn’t give you a place to rest your foot.

So how do you incorporate the requisite elevated foot into your standing workstation without relocating the office to the local watering hole? The cheapest and easiest method is to use your stool, a box, or an abandoned chair. The height can vary, but when your foot is propped up on it, your knee



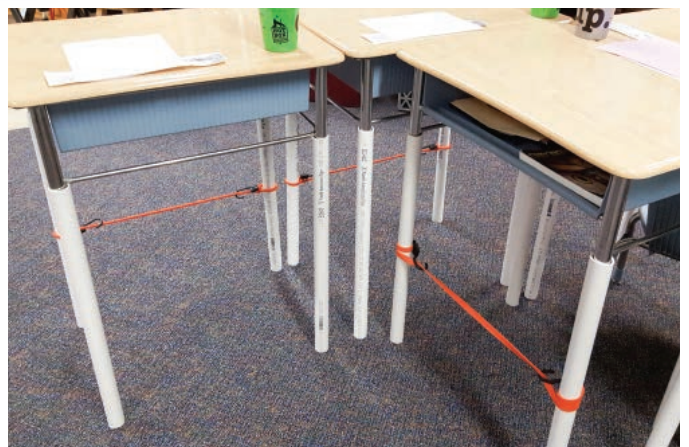
should be no higher than your hip. Some people like a little less or a little more elevation. Experiment for yourself, and don't be afraid to mix it up.

A slant board is another excellent option. It is one of our top recommendations because it gives you more choices. It's similar to a simple platform, but instead of a flat top, it has an incline. This incline allows you to stretch your calf and ankle while in the Captain Morgan Pose (Option 1). You can also stand with both feet on the slant board (Option 2), which improves your balance and allows you to work on ankle and calf mobility without disrupting your work flow. Plus, you can use the slant board as a footrest when you're leaning against or sitting on your stool (Option 3).



Finally, you can incorporate a relatively new design innovation and get yourself a swinging foot bar, or fidget bar. This is essentially a bar on which you can rest your foot that also swings back and forth. When we supplied our daughter's all-standing/moving school with standing desks, we made sure that the desks had these swinging bars. The fidget bars allow the kids to engage in constant small motion throughout the day that doesn't disrupt class. The students and teachers report that the bar is their favorite part of the standing desk setup.

If 450 school-age children can make the move to a dynamic standing work environment, so can you. Keep an open mind and be creative. There are plenty of options that will help you achieve your goals of increasing your movement throughout the day and supporting your working postures.

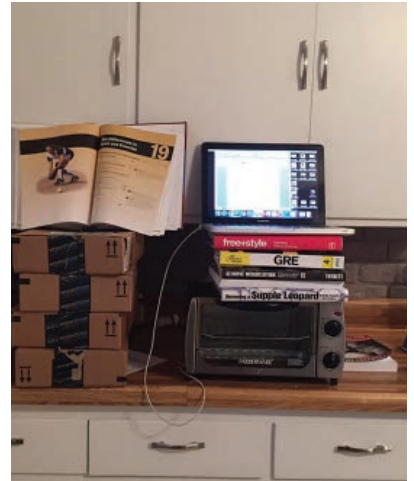


The Desk Itself

A decade ago, it was nearly impossible to find a standing desk at all, let alone an affordable one. Today, dozens of companies are making adjustable and fixed-height standing desks. Standing options are becoming more and more affordable as they become more commonplace.

There are also many innovative for-purchase and do-it-yourself solutions for converting a sitting workstation to a standing one. One company even sells a \$25 cardboard standing desk converter. Still too fancy? Grab an Amazon box and get started. Below are some of our favorite standing desk hacks that people have sent to us.

If you are handy and enjoy DIY projects, you can easily create your own standing workstation using materials that you probably have lying around the house. We know people who have used cinder blocks and common building materials to raise the height of their desks to match their own height and proportions. We've even seen people extend the height of their desks by sliding PVC pipe over the legs. Pam, one of our best friends, works at her



ironing board standing desk whenever she works at home. The point here is that you don't have to spend thousands or even hundreds of dollars to convert to a standing workstation. If you're hunting for ideas, simply type "standing workstation conversion" into your search engine and a host of solutions will pop up.

Adjustable vs. Fixed-Height Standing Desks

As you've probably gathered by now, the key benefit of a standing desk is that it creates a movement-rich environment in which you can easily fidget, switch positions, and move around. There are two types of standing desks: adjustable "sit-to-stand" desks and fixed-height desks. When we say "fixed-height," we mean that the desk will adjust to your height, but it won't allow you to sit and work. Each type has its pros and cons, depending on your specific needs and personality, but we much prefer fixed-height desks.

An adjustable desk is the more flexible of the two options. With the push of a button or the turn of a simple crank, the desk transforms from standing to sitting height. This feature is appealing because many people seem to like doing email or talking on the phone while standing but struggle to do more focused tasks, like writing, unless they're sitting. There are several important drawbacks to adjustable standing desks. The first is price. Adjustable desks typically cost in the \$1,000 to \$4,000 range—enough to scare any employer who receives a standing desk request from an employee. Second, research out of Cornell University on sit/stand workstations shows that people tend to stand for the first few months (perhaps because of the novelty) but eventually lower the desk, sit back down, and never get up again.¹ An adjustable desk is nice in that it's easy to make small changes to your standing work height given your current task. But treat that down button with the respect that you'd afford a loaded gun. If you purchase an adjustable desk and revert to sitting, you've just traded one sitting desk for another, probably with a big price tag.

Fixed-height standing desks are much more affordable but lack the flexibility of adjustable desks. This lack of flexibility is actually a feature we like, so we recommend fixed-height desks to most of our clients. Having a stool gives you a place to rest when you're tired, but you have no option to revert to the dreaded sitting-all-day position. We vote for taking choice out of the matter. Around our house we have a saying: if we don't want to binge on chocolate chip cookies late at night, we can't have piles of chocolate chip cookies lying around. If you think you'll revert to sitting if you have the option, we couldn't agree more—you will.

Desk Height

The most important consideration with a standing desk is height. The majority of fixed-height standing desks are 40 or 42 inches tall. According to Dr. Mark Benden, professor and director of the Ergonomics Center at Texas A&M University and author of *Could You Stand to Lose? Weight Loss Secrets for Office Workers*, this height allows 90 percent of the healthy adult population to work comfortably while standing.² Before you run out and purchase one of these desks, though, make sure that you actually fall within this 90 percent. If you don't, an adjustable desk might be a better option for you.

First, consider how you use your desk. The goal is to find the ideal desk height for the type of work that you perform. If you spend most of your time using pen and paper, you'll want to measure from the floor to the surface of the desk. If you primarily use a keyboard and mouse, measure from the floor to the keyboard tray. If your work involves a combination of both, you'll probably want to forgo the keyboard tray and place your keyboard right on your desktop so you can easily switch back and forth between typing and writing or drawing.

Next, go through the bracing sequence on pages 82 and 83. With your posture corrected, bend your arms so that your forearms are parallel to the floor. Your desk or keyboard tray should be at elbow height. But don't be dogmatic about it. If you work at the suggested height for an hour and think you will feel more comfortable if you move it up or down a little, trust that instinct.

How to Set the Height of Your Standing Desk



The Leaning Option: A Stool

A stool is a critical part of your standing workstation, but not all stools are created equal. The goal of having a stool is not to create a tall sitting desk but to give you a surface that you can occasionally lean on or use to prop up one leg.

In our experience, a stool with a hard or semi-hard surface, a flat pad, and squared edges is best because it grabs the edge of your glutes and prevents you from slipping off. It also creates the best surface for leaning. A stool with curved or soft edges will be uncomfortable to lean against and will probably squirrel away from your desk (as will a stool that has wheels).

A stool with a flat pad is also easier to use for performing basic body maintenance on the job. For example, you can prop your foot up to mobilize your hamstring or lay your leg across the stool to open up your hip, as shown opposite. In addition to giving you options for moving, a stool with a hard surface will help you maintain a better temporary seated position. As you will learn in Section 5, having a hard surface to sit on is fundamental to sitting in a good shape.

Most people don't know that the material used in Herman Miller chairs was originally developed to prevent pressure ulcers caused by sustained sitting. Anyone who is chiefly confined to a sitting environment like a wheelchair will tell you that they obsess about their seating surface. The problem with relying on advanced material technologies if you don't have to (like in your optional desk chair) is that it facilitates sustained pressure on tissues that were never intended to bear weight. A hard surface, on the other hand, allows for great mechanical feedback; you get uncomfortable, which reminds you to move on to your next shape before too long.

It's worth mentioning here that there are several stools, stands, and dynamic seating options that you can perch on or lean against while remaining in an upright position. Most of these seats are specifically designed for adjustable desks. Although we offer a specific recommendation, we want you to know that you have options. As long as the seat promotes standing and accommodates upright leaning and perching, it will get the job done.

What about a stool with a backrest? Well, the backrest encourages sitting and slumping. Why use the beautiful machinery of your body to support yourself when your stool will do it for you? When you do decide to sit on your stool, the lack of a backrest will force you to maintain an upright position and keep your trunk engaged. If your stool has a backrest like the one shown opposite, resist the temptation to use it.

It was only a short time ago that lifting belts were common in industrial work environments. The thinking was that if workers kept their vulnerable midsections braced with a belt all the time, the number of lumbar lifting



injuries would decline. This makes perfect sense, right—extra support for people who lift heavy things for a living? As you might imagine, it backfired for precisely the same reason that we don't advocate using a backrest for support. As soon as workers began to use the belts as the primary mechanism for stabilizing their spines, their trunk musculature basically went on vacation, creating a downward spiral of core de-conditioning, and injury rates went through the roof. The same thing happens to your trunk musculature when you decide to let a chair act as a surrogate for the stabilizing system of your spine.

As with your desk, the height of your stool is very important. The ideal height is roughly the same as your inseam. Another, perhaps easier way to get this measurement is to pick a stool with a seat that just reaches your butt. When you're leaning against the stool, you want the crease of your butt cheeks positioned against the edge of the seat, which provides equal amounts of comfort and grip. If the seat is too low, you won't be able to reach your keyboard (assuming that you have a fixed-height desk). If the seat is too high, you won't be able to lean against it effectively. When the height of the seat is just right, your lean will look a little like sitting and a little like standing, yet will remove some of the work from your legs. If you've ever found yourself in a crowded European train or on any form of public transportation, you'll recognize that you can basically lean forever.



Your Monitor

Simply plopping your monitor on top of your desk is not going to create the optimal setup for your body. If you are at the point where you are placing a monitor on top of your new standing desk, you are already crushing life, but we have seen too many beautiful necks lost to wretched monitor placement.

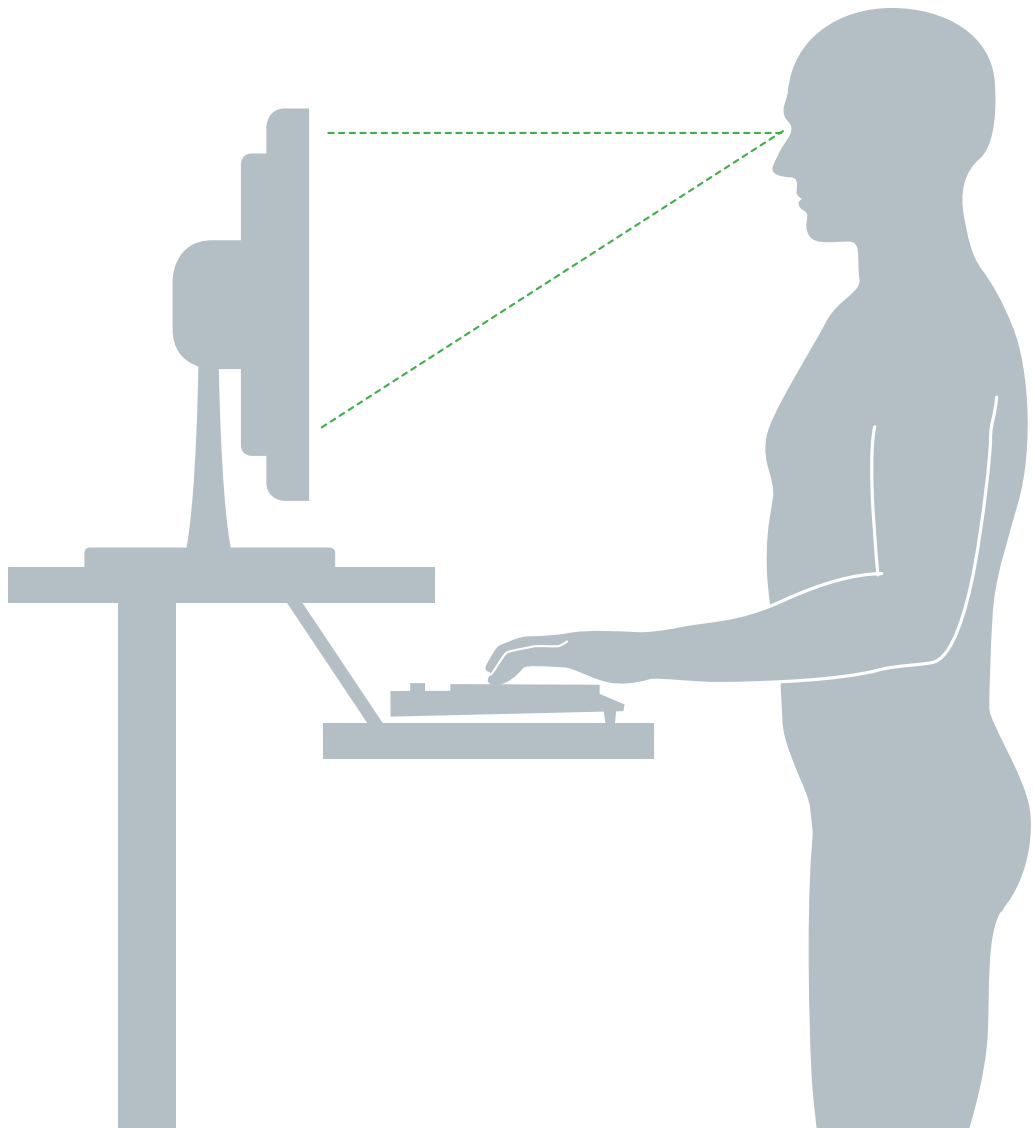
Determining the ideal height for your monitor is pretty easy. Organize your body into your home base spinal position, focus your gaze straight ahead, and then position your monitor so that the top of it is at eye level. If your monitor is adjustable, it may be beneficial to tilt it upward slightly so that you can see the entire screen. This keeps your head aligned with your neck and trunk. Just because you *can* orient your head downward for hours on end doesn't mean that you should. The first step in stopping headaches and neck pain related to poor head positioning is to control and change the environmental demands.

The difficult part is not determining the proper height for your monitor but implementing it. If your standing desk is at the right height and has a keyboard tray positioned below the surface of the desk, everything may work out perfectly. Your forearms will be parallel to the floor while you type, and your eyes will be focused straight ahead. However, if your keyboard and mouse are sitting on the surface of the desk, chances are your monitor will be too low. Several companies sell standing desks that offer height-adjustable monitor arms, but be forewarned: this option often requires some assembly.

If the standing desk you're considering doesn't have this option or you are constructing a makeshift standing desk, you'll need to find a way to elevate your monitor to eye level. The simplest and cheapest method is to position it on top of a stack of books or a small box, but a monitor stand on your desktop looks far more attractive and is probably more appropriate in an office setting. Still, we love a makeshift monitor setup. It screams, "At least someone around here cares about their neck!"

If you have a fixed-height standing desk, we recommend setting your monitor height to your standing position rather than your stool-based leaning position, which tends to be a few inches lower. Acrobatic divers have always been champions of good ergonomics: they know that where the head goes, the body follows. If your screen is too low (as it would be sometimes if you set your monitor height to your leaning position), you will look down. The next part of the body to follow will be your neck, followed by your trunk. How about this for a monitor rule? See your future, be your future. Or, in the case of a too-low computer screen: don't look where you don't want to go.

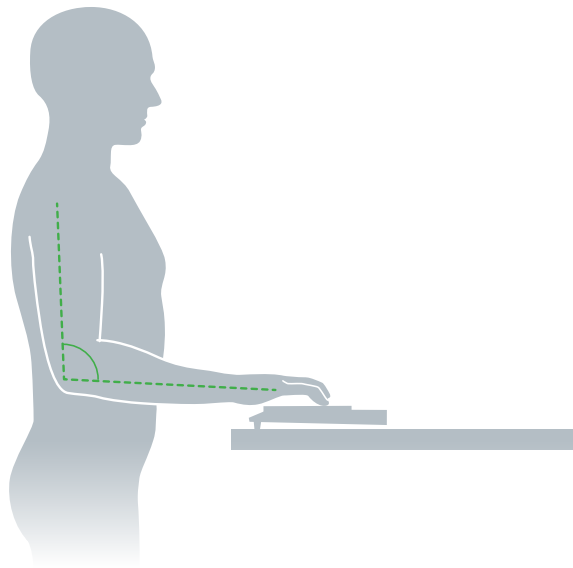
We aren't sticklers for how far away your screen should be, but our friends who obsess about these things offer some basic guidelines. When it comes to the distance between your eyes and the monitor, the key is to be able to see the entire screen without having to move your head. The exact measurement depends on the size of your monitor, your eyesight, and what you're working on. For some jobs you may need to be closer to the screen, and for others you may need to be a bit farther away. If the monitor is too close, you might strain your eyes, and if it's too far away, you might have to crane your neck forward to see the screen better. The general recommendation is to position your monitor between 18 and 30 inches from your eyes, but these numbers are somewhat arbitrary. Do what's most comfortable for your body type, your job, and your setup.



Your Keyboard and Mouse

The primary consideration with your keyboard and mouse is to have your forearms about parallel to the floor while you work. On page 149 we gave you a method for determining the right height for your desk, which you should reference if you want your keyboard and mouse to sit on top of your desk. If you plan to use a keyboard tray, then the height of your desk matters only for your monitor—it's the height of the tray that matters for your arm positioning. Use the same method to find that height: Establish an organized standing position and bend your elbows about 90 degrees so that your forearms are parallel to the floor. Now set your keyboard tray to elbow height or slightly lower, depending on your personal preference. Some people find it more comfortable to have their arms at 90 degrees, while others prefer a slightly more open angle. Your elbow height will ultimately dictate your ability to keep your hands in line with your wrists and elbows.

We also recommend standing or sitting close to your keyboard, which enables you to achieve the ideal upper body position—externally rotated shoulders, elbows in tight to your body, and wrists aligned with your elbows and shoulders. Because this anatomical position mimics the lotus position in yoga, we like to call our interpretation the “Eastern Keyboard Approach.” If you're farther away from your keyboard and mouse, you'll have to reach your arms forward, which causes your elbows to flare outward, your shoulders to internally rotate, and your wrists to collapse. Working in this position for hours on end, day after day, can lead to thumb and wrist problems and is a mechanism for repetitive stress injuries like carpal tunnel syndrome.



Over-Glow: How Your Computer Is Affecting Your Eyesight and Sleep

According to the American Optometric Association, if you spend two or more consecutive hours staring at a computer screen every day, you are at greater risk of developing computer vision syndrome, or digital eyestrain.³ That's right, there's an eye syndrome associated with too much computer time. Similar to carpal tunnel syndrome, computer vision syndrome is basically a repetitive stress injury for eyes. You can develop a host of symptoms ranging from eye fatigue, eyestrain, and burning and itchy eyes to sensitivity to bright light, blurred vision, headaches, and even neck and back pain. Playing video games, watching TV, and using a tablet can cause similar eye problems. As with other repetitive stress injuries, the onset of symptoms occurs when you carry out the same motion over and over again.

But why is looking at a glowing screen so bad? There are a few reasons. For starters, your eyes have to constantly adjust between staring at the bright computer screen to reading a paper to gazing out a window. Add to that the glare, flicker, and changing images on the screen. All this requires a lot of effort from your eye muscles, and although there is no evidence that it causes long-term damage, short-term ramifications are common. The good news is that there are solutions.

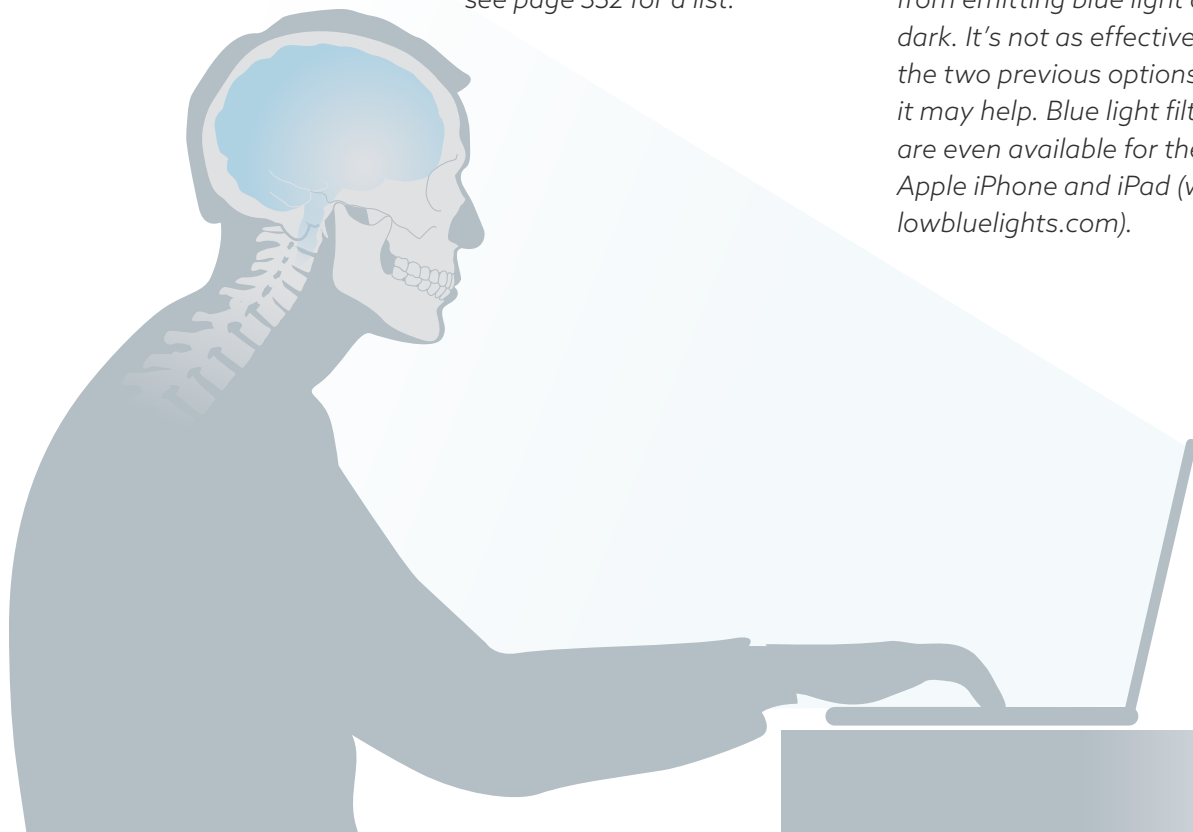
- **Take a break:** Just as you need to take a break to move, you need to take a break from looking at your screen. Our physiology just wasn't set up to stare at a fixed distance for 40-plus hours a week until the age of 65. Really concerning research around sustained fixed-distance gazing comes from people investigating the physiological effects of long-term, close-quarters confinement in prison populations. Because prisoners spend most of their time in small jail cells, their eye function degenerates. Are your eyes in self-imposed solitary confinement? This is where the 20-20-20 rule comes into play. Take a break every 20 minutes and look at something 20 feet away for at least 20 seconds. Many people don't blink as often when working on a computer, so when you do take a break, try to refresh and moisten your eyes by blinking. If you follow the guidelines outlined at the beginning of this book, you're already taking a short movement break every 20 to 30 minutes, so use this time to look at something other than your computer screen, too. Take a quick walk outside or stare out a window.
- **Reduce glare and brightness:** Adjusting your monitor settings and reducing glare may help. Make sure that the light is evenly distributed around your desk, and customize the brightness, contrast, and text size on your computer to find the best settings for your eyesight.
- **Follow the workstation setup guidelines:** Make sure your monitor is positioned so that you don't have to lurch your head forward or strain your eyes to see what's on the screen. Again, 18 to 30 inches is the general recommendation.

Blue Light and Sleep

You've probably heard that being exposed to light at night, especially the blue light emitted by electronics, is bad for your health. Why? It's all about your circadian rhythm, which is your body's biological clock. Being exposed to light (specifically blue light) at night disrupts your body's natural sleep cycle. As a result, your sleep is compromised. And when your sleep is compromised, everything is compromised.

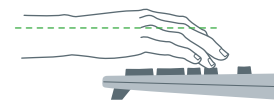
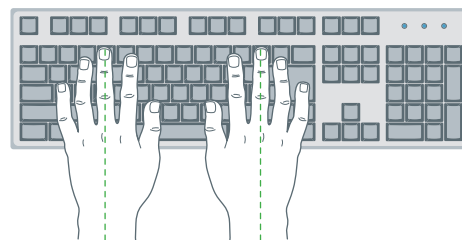
Blue light produced by electronics is especially bad because it causes the body to suppress the release of melatonin, a hormone that helps regulate sleep and wake cycles. When it gets dark, your body releases melatonin, which tells your brain that it's time to relax and go to sleep. So, when you're up late working on your computer, your body never gets the signal that it's time to sleep. If you have a hard time getting to sleep at night, this may be the problem. Fortunately, there are some simple remedies.

- **Avoid using electronics after dark:** Turning off all unneeded lights in your home and avoiding bright screens for two to three hours before bed is the most straightforward solution. However, that is not realistic for most people.
- **Wear blue light-blocking glasses:** Studies have shown that wearing blue light-blocking glasses tricks your body into producing the same amount of melatonin that it would if it were dark, even when using electronic devices.⁴ And no, you don't have to look totally dorky doing it. There are some quite fashionable options available—see page 352 for a list.
- **Install software that reduces blue light emissions:** Another way to block blue light is to install a software program called *f.lux* (www.justgetflux.com) on your computer. *f.lux* adjusts your computer display according to the time of day. The screen is bright during daylight hours, but *f.lux* prevents your monitor from emitting blue light after dark. It's not as effective as the two previous options, but it may help. Blue light filters are even available for the Apple iPhone and iPad (www.lowbluelights.com).

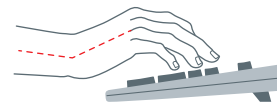
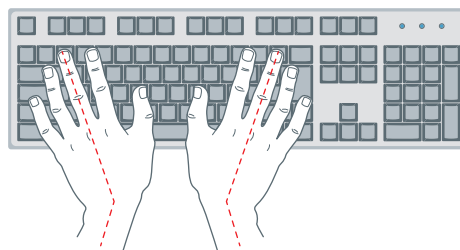


If you find that you are having trouble maintaining the Eastern Keyboard Approach, you may want to consider an ergonomic (curved) keyboard, which better supports your indigenous mechanics. The traditional flat keyboard is a wonderful example of how comfortable we've become with conforming our bodies to our technology. In an ideal world, you'd be able to split your keyboard in half so that it would work at the distance between your hands when your elbows are bent at your sides and your forearms are straight out.

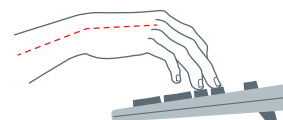
When it comes to typing mechanics, keeping your wrists aligned with your forearms is critical, as is taking frequent breaks to move your wrists and hands. The crucial takeaway is that your wrists should not be resting at the base of your keyboard, at the bottom of your laptop, or on your mouse pad. Instead, your hands should be supported at your shoulders with your wrists free-floating or lightly brushing the keyboard. Resting your wrist can compress the nerves and blood supply to your hand, as it compresses the tissues that run through your carpal tunnel, the normal bony tunnel in every wrist. In addition, your anchored hand cues your body to stop creating a stable position upstream at the shoulder.

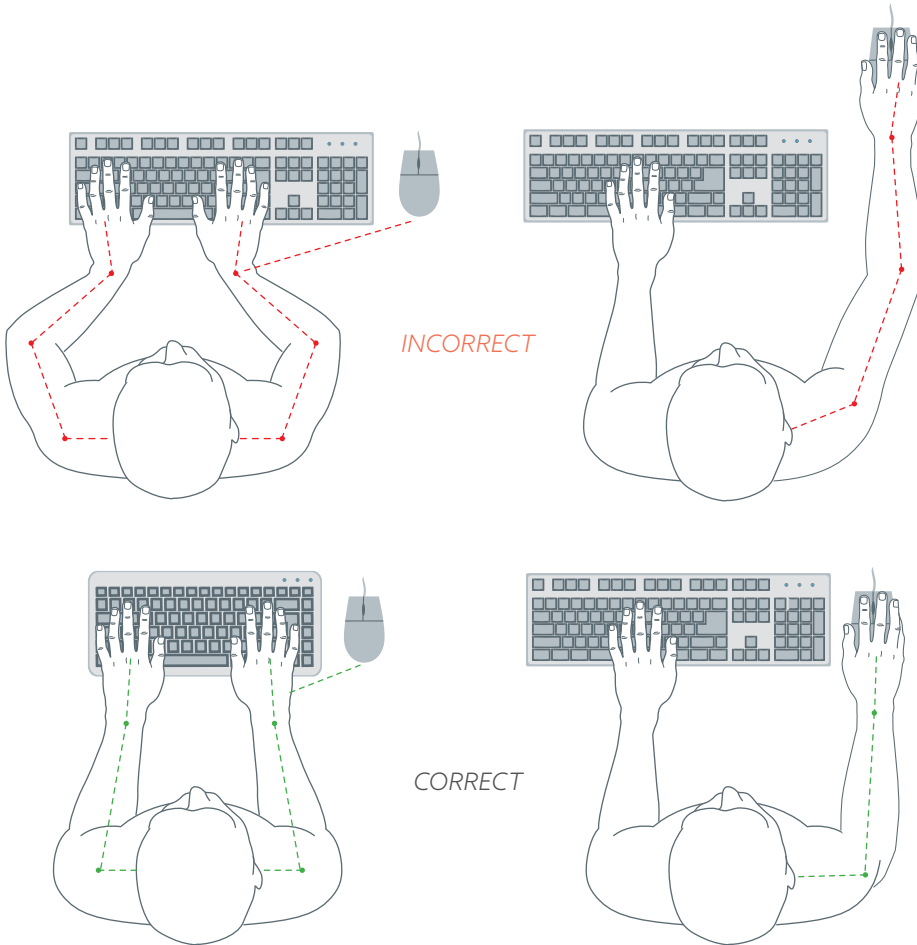


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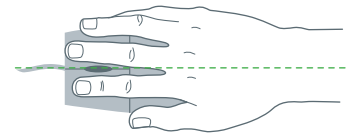
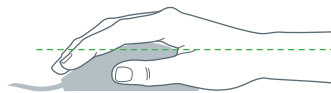
These same principles apply to how you move and scroll with your mouse. Again, the goal is to keep your wrist aligned with your forearm, positioning the mouse close to your keyboard and body. Avoid resting your wrist on the mouse pad or desk, and avoid moving the mouse with your wrist alone. Instead, move from your shoulder. For example, if you have to move your cursor across the screen, do it with your shoulder, which you'll notice moves your entire arm.

If you position your elbows at your sides, your forearms parallel to the floor, and your hands like they were performing some karate chopping, this is where your mouse should be. Using your mouse with your hand inside your elbow is a recipe for shoulder and neck dysfunction. Keeping the mouse even with your forward-pointing forearm or even slightly outside it utilizes your body's natural mechanics and connective tissues to support your whole arm. With the mouse oriented in this position, you are better able to maintain an organized, stable shoulder and neck.

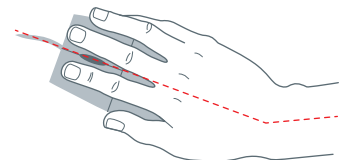
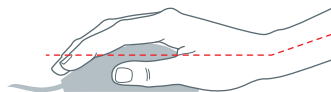
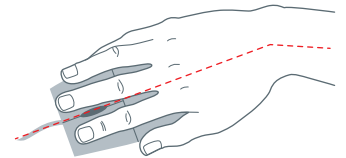
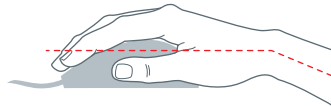
Mouse mechanics are a low-effort way to make your world fit your anatomy rather than force your anatomy to fit your world. You know that knot on your mouse-using side that goes from your shoulder blade to the back of your neck? This ropy piece of beef jerky is the calling card of “mouse in the wrong place” syndrome. If you want it to go away, you are going to have to give it a break by improving your mouse hygiene.

Lastly, because we know that typing in the perfect, anatomically sensitive position may not be possible all the time, we also recommend doing some basic maintenance by rolling out your forearms, wrists, and hands every hour, or more often during heavy typing and mouse usage—see Prescription 7 on page 290.

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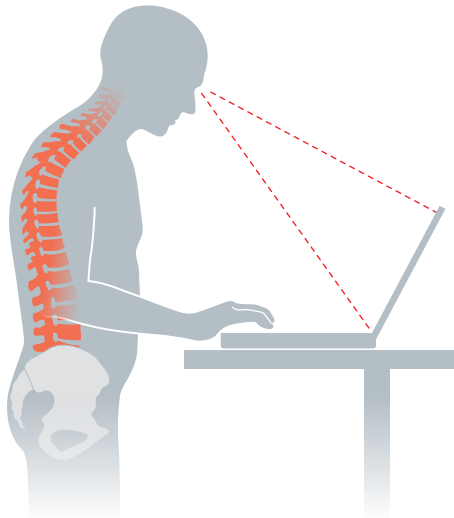


The Laptop Workstation

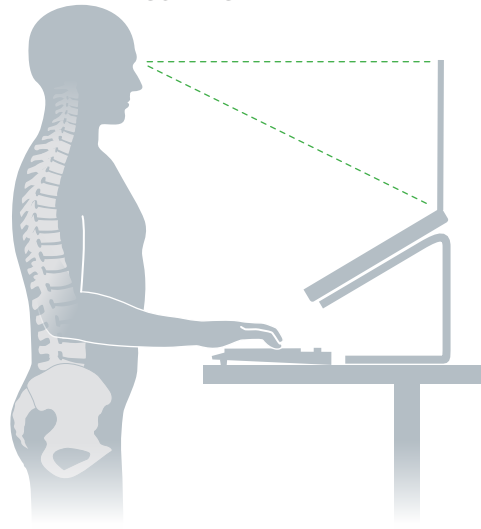
Using a laptop makes it a bit trickier to set up an optimal standing workstation because the keyboard and monitor are a single unit. If your laptop keyboard is at the height that we recommend for a regular computer, your monitor will be far too low. Remember, your head follows your gaze, so you will ultimately assume the dreaded rounded-back position. If your monitor is at the correct height, it will be impossible to keep your forearms parallel to the floor.

There are two solutions to this problem. The better option is to purchase either an external monitor or an external keyboard, which allows you to position both your keyboard and your monitor at the proper height.

INCORRECT



CORRECT



The other option is to split the difference by positioning the top of the laptop screen at roughly neck height. It's not ideal for extended periods but shouldn't cause you too much concern when used intermittently.

The worst laptop ugliness is to sit in a soft chair, hunched over your tiny body-crushing device. Yes, we are referring to every business traveler we've ever seen. Ever.



The Active Workstation: Creating a Movement-Rich Environment

A standing workstation enables you to burn more calories, activates more muscle groups than sitting, and increases blood circulation. Standing also reduces your risk of cardiovascular disease, obesity, diabetes, and some cancers. But when you are accustomed to sitting, standing all day can be strenuous. This is especially true if you are overweight or have been deskbound for the majority of your adult life. The fact that standing is strenuous is a sign that your body is out of whack, because the human body is designed to be upright and moving. That said, we appreciate that the transition from sitting to standing can be challenging at first. The simple key to making the transition smooth is movement. Before you have a panic attack and scream, “There is no way my boss will let me run laps around the office all day,” understand that movement comes in all shapes and sizes—literally.

Three general types of movement will give you the most benefits from your standing workstation:

- 1. Shifting positions:** This, the least dramatic form of movement, doesn't require you to leave your computer or interrupt your work. It's as simple as switching from one braced neutral standing position to another every two to three minutes, or whenever your body sends you a signal to move. In this chapter we cover three base positions that you can cycle through.
- 2. Movement breaks:** Even if you change your position often, you still need to infuse your workday with actual movement that forces your body into different shapes. The goal is to bury two-minute movement breaks into your workday. This practice will get blood circulating to areas that have been idle and poorly perfused, most notably your neck, arms, wrists, and fingers. Take these short breaks every 20 to 30 minutes.
- 3. Mobility breaks:** Two-minute body maintenance (or mobility) breaks should be interchanged with your movement breaks. Instead of moving, try performing one of the techniques from the sample routine outlined at the end of this chapter, or pick one from Section 7. Some of these techniques will take you away from your keyboard momentarily, but there are an equal number that you can perform while at your workstation.

Shifting Positions

Regardless of how well you organize your body at your standing desk, remaining in the same position for hours on end just isn't ideal. To avoid the stillness trap that you experienced at your sitting desk, be conscious of shifting your position as often as possible to create movement. A nice way of saying this is that your best position is probably your next one.

There are three basic positions that you should cycle through: Stable Standing, the Captain Morgan Pose, and the Upright Lean.



Stable Standing:

While Stable Standing is an ideal position for your body, it is challenging to maintain for long periods. Standing well in one place for a long time is ultimately uncomfortable and potentially strenuous. And standing in one position without moving doesn't respect the movement-based design of the human body. For this reason, you probably will spend the least amount of time in this position. Most people use Stable Standing as a transitional position between the Captain Morgan Pose and the Upright Lean.

Captain Morgan Pose:

Elevating one foot off the ground automatically orients your pelvis into a more neutral position and reduces potential tension and strain in your lower back. This makes the Captain Morgan Pose one of the best positions to assume while working at a standing desk.

Upright Lean:

This isn't technically standing, but it's not really sitting, either. It falls somewhere in between. The Upright Lean shares many of the same traits as standing in that your hips are open, your posture is upright, and your legs are straight. But it's also like sitting because you're resting your butt on the edge of a stool, effectively taking weight off your legs. If you have to work in front of a computer for eight hours a day, this is where you will likely spend the majority of your time.

Like the baseline movements outlined in Section 3, consider Stable Standing, the Captain Morgan Pose, and the Upright Lean to be your foundational positions. Once you can effortlessly shift between these positions, start adding new ones to your repertoire—like the ones we offer on pages 166 and 167. In the beginning, the key is to maintain a neutral body and shift your position as often as possible. That process is a lot easier when you have only three positions to manage. Feel free to create your own work posture language over time; just remember to respect your spine.

As you already know, your body does a pretty good job of letting you know when it's uncomfortable. Sometimes that discomfort registers as pain, and other times it manifests as body agitation. This is not unique to standing. If you were to film someone at a sitting desk for an entire eight-hour period, chances are you would see him assume all sorts of positions, such as slouched forward, overextended, legs crossed, and legs propped up on the desk. He assumes all these seemingly random positions because his body is screaming at him to move. But your movement options are limited when you are seated. As you are now aware, standing opens up a lot of new possibilities. Although the three baseline positions aren't dramatically different, they provide your body with just enough movement to keep your joints, connective tissues, and muscles from barking like a roomful of pent-up Chihuahuas.

The trick to dynamic standing is training yourself to default to one of these positions when your body sends you a signal to move. When you're first starting out, you will catch yourself in suboptimal positions throughout the day, like hitching over onto one hip. The only way to rid yourself of this habit is to correct your mechanics whenever you notice them slipping. Because your posture tends to slip the most when you are engrossed in a task, you might want to consider giving your coworkers license to call out your bad posture when they see it. We have this policy in place at our office, and we routinely correct each other's posture at work. And it certainly holds true for our daughters, whose job is to catch us in compromised shapes. Moving well is a skill, and skills take time to develop. Did you know that a child has to perform a task roughly 10,000 times before she acquires that new skill? That's a lot of practice.

Your body's signals will dictate how often you switch between these three stances. If your feet ache, your lower back gets tight, or you feel discomfort, it's time to switch. We've observed people who were able to stand in a static position for an hour or more before discomfort kicked in, but in those cases we concluded that they were simply too engrossed in their work to notice the signs. If you are such a person, we recommend making a mental note to switch every two or three minutes. You can even set an alarm on your phone as a reminder at first, until moving frequently becomes second nature. If you can keep moving at your desk throughout the day, you are accumulating a

ton of NEAT movement without leaving your workstation. As we discussed in the introduction, that type of movement can literally mean the difference between being obese and maintaining a healthy weight.

There is no prescribed order or progression to these three foundational positions. Transitioning from Stable Standing to the Captain Morgan Pose is just as effective as transitioning from Stable Standing to the Upright Lean. The only rule is to do what feels comfortable.

When you're new to a standing workstation, it's quite possible that at some point in your day, none of the three positions will feel comfortable. That's when you should give your legs a break and sit on your stool. Or, even better, step away from your computer for a moment and perform a two-minute movement or mobility break.

Again, it's important to emphasize that you are not limited to these three positions. We encourage creativity, but we highly recommend starting with them if you are new to a standing workstation. All three positions make it easy to maintain an organized body, and in the beginning it is far more doable to commit to three positions than twenty. As long as the positions you assume adhere to your body's organizing principles, they should serve you well.

Shift as often as possible: *We often say that your next position is your best position, which is really just a cue to move often. To avoid sitting still, shift your position whenever you begin to feel uncomfortable or get the urge to move. This might be every 10 seconds or every minute, but you should avoid being in any one position for long stretches.*

Set a timer: *Most people shift positions intuitively, every few seconds or every few minutes at the most. But some people get so engrossed in their work that they forget to move. If you're one of those people, set a timer to go off every three minutes. This might prove distracting at first, but it won't take long for the habit to sink in.*

Change the position of your stool: *To encourage shifting, change the position of your stool often. Stand with your stool behind you, position it to the side of your body, or place it in front of you. Each stool position will force you to adopt a new shape. Here's one way to implement this strategy: every time you return from an every-30-minutes movement break, change the orientation of your stool. For example, for the first half hour, stand with your stool behind you so that you can lean, and then, after your break, move it in front of you so that you can rest your foot on it.*

Guidelines for Shifting Positions

To give you an idea of how to shift positions as well as give you some alternatives to choose from, here are some functional standing positions:





4.



5.



9.



10.

Movement and Mobility Breaks

Constantly shifting your position while at your standing workstation will do wonders to prevent achy joints and muscles, but it simply isn't enough to maintain a healthy body. To avoid all the negative ramifications of being idle for long periods, you must add actual movement to your workday. Don't worry; we're not talking about dramatic exercises like burpees or weighted squats. Movement comes in many forms: taking a quick stroll around the office, rolling your wrists or shoulders, or squatting down into a chair several times. In Section 7, we offer a plethora of beginner to advanced mobility techniques that you can safely perform at your workstation without turning too many heads. Be creative! These are just suggestions to inspire you to move.

Movement breaks should be at least two minutes long and should be performed every 20 to 30 minutes whenever possible. This might seem like a lot of breaks, and you might be worried about how your coworkers or boss will perceive your time away from your desk. But moving is not just good for your body; it's good for your mind, too. Many studies have shown that the average worker “works” only three hours a day. The other five hours are spent procrastinating, chatting with coworkers, or staring mindlessly at a wall. We believe that the sedentary nature of many jobs is to blame. The research on brain function is clear: when the body is inactive, and especially when it is sitting, the brain cannot be fully engaged and it is much more difficult to stay focused. (See the sidebar “The Movement Brain” on pages 22 and 23 for more statistics.)

There is also an increasing amount of evidence showing that moving more throughout the workday enhances productivity and leads to better time management. For example, the footwear company New Balance piloted a program in which it encouraged roughly 750 employees to integrate some form of physical activity into their routines every 30 minutes. Of the 239 people who completed a post-program survey, 53 percent said that their level of physical activity at work had increased, and 42 percent reported heightened engagement and concentration.⁵ Moving more can even help you manage work-related psychological stress.⁶ Notably, tech giant Facebook reported that since incorporating standing desks into its offices, employees feel more energetic throughout the day.⁷ And research has shown that standing may encourage more creative and collaborative group work.⁸

The key is remembering to take these breaks. If you have been desk-bound for a long time, you may revert to your old pattern of not moving enough. Luckily, there are a host of helpful tools that you can utilize. The simplest is a basic timer. We recommend setting it to go off every 20 to 30 minutes. When it beeps, finish up what you're doing and take your movement/mobility break. There are also more comprehensive tools, such as programs that will time-out your computer screen every 30 minutes. Here are some options worth considering:

- Focus Time activity tracker and timer (iOS) (<http://focustimeapp.com/>)
- Marinara productivity timers (Web) (www.marinaratimer.com)
- Stand Up! work break timer (iOS) (www.raisedsquare.com/standup/)
- Time Out break reminder tool (Mac) (www.dejal.com/timeout/)
- Tomighty desktop timer (Mac/Windows) (www.tomighty.org)

To give you an idea of how to implement movement and mobility techniques into your workday, we've drawn up a sample routine that you can perform in your workspace. If you're deskbound for eight hours and you're taking a two-minute break every half hour, you would perform one complete set of the movement and mobility techniques outlined on the following pages. You don't have to complete the sample routine in this exact order; you can and should alternate between movement and mobility sequences based on your personal preferences. Moreover, you don't have to perform all the movement and mobility techniques offered. Even doing five of them is better than nothing.

We encourage you to develop your own routines using techniques and movements that are specific to your body's needs and are appropriate for your work environment. In other words, you're not limited to what's included here. In fact, you shouldn't limit yourself to what's featured in this book. We know people who perform push-ups and bodyweight squats and go for short walks during their breaks. No movement is off-limits. The key is simply to move and mobilize.

Sample Movement and Mobility Routine

Break 1: Neck Movement

The neck is one of the first areas to get stiff when you're working at a desk. To combat stiffness, tension, and pain, simply move your head in all directions—tilting your head up and down and side to side and dropping your ear toward your shoulder—periodically throughout the day or anytime you feel tension building. You can spend time in each position or seamlessly transition from one position to the next.



Break 2: Wrist Roll

People go hours without lifting their hands from the keyboard, especially when they're engrossed in work. It's no wonder that so many of us suffer from hand-related problems. If your hands have been stuck in one position, get some movement into the area by doing circles with your wrists. Complete 10 full rotations with your hands moving in a clockwise direction, then do 10 in the counterclockwise direction. Switch back and forth like this for a minute or two. You can also shake out your wrists as if you were trying to air-dry wet hands and/or open and close your hands.





Break 3: Hip Opener (Split Squat)

The split squat is great for opening up the hips and activating muscle groups in your lower body. To begin, get into a lunge stance with a slight bend in your knees, keeping the glute of your rear leg engaged. From here, lower your rear knee to the ground, dropping it straight down. Focus on keeping your rear glute engaged, your lead shin as vertical as possible, and your torso upright and neutral. Ten split squats on each leg (right leg forward and then left leg forward) is a good number to aim for.

Note: You don't have to perform the split squat movement. Simply getting into the lunge position gives you a nice stretch through your hips. Try to accumulate 1 minute on each side.

Break 4: Quad Smash

Whether you're standing or sitting, the fronts of your legs are bound to get tight. To perform this mobilization, you'll need a ball, such as a lacrosse ball or softball (see pages 239 and 240). Simply use your hand to drive the ball into your quadriceps and employ the contract and relax, smash and floss, and pressure wave methods (see "Mobilization Methods" beginning on page 230). The best part of this mobilization is that you can do it while sitting on your stool or chair. Just remember to stand up and move around a little before getting back to work.



If you're at home or you have a private place to mobilize at the office without creeping out your coworkers, you can execute a more effective quad smash; see pages 313 and 314 for details.



Break 5: Shoulder and Chest Opener

This exercise is a great way to improve shoulder mobility and keep your upper body loose during the day. You will need a PVC pipe, wooden dowel, belt, band, or towel—basically anything that measures the length of your arm span and won't rip or break. To begin, take a wide grip on the pipe (or whatever implement you're using). Keeping your arms straight, slowly move the pipe over your head and behind your body. Don't be in a rush when performing this movement. Hang out with your arms behind your body (as in photo 3) to get a nice stretch through your chest and shoulders. After 3 to 5 passes, move your hands a little closer together. Repeat this process until you can't get your hands any closer together.

Break 6: Global Forward Bend

A neutral spinal position is your base working position and the position in which you should spend the most time. But your spine is also designed to bend and twist. Remember, the spine is divided into three segments: cervical, thoracic, and lumbar. Each segment consists of individual bones called vertebrae, which function a lot like hinges. When it comes to stability, these hinges are not meant to bend individually. However, your vertebrae are meant to bend as a part of a global arch through the entire spinal system, which this movement emphasizes. If you do yoga, the Global Forward Bend will look familiar, as there are several variations of the standing and sitting forward bend in yoga.

This bend lengthens your spine and provides a nice stretch through the tissues and muscles of your posterior chain—specifically your back, glutes, and hamstrings. To perform the movement, assume a braced neutral position, take a big breath, and then bend forward starting from your head, exhaling as you bend. As you move toward the floor, allow each vertebra to fold forward in sequence.

So allow your head to fall, then your upper back, and then your lower back. Try to time your breath so that you are exhaling the last of your air as you reach the bottom position. You can grab the backs of your heels and hang out in the bottom position for a few seconds for a deeper stretch. There's no need to rush.

When you're ready, perhaps after a breath or two, go up the same way you came down. But this time, inhale as you come up, pulling yourself into the standing position one vertebra at a time. Be sure to pull your belly button toward your spine as you move. Finish in a neutral position.

We want to emphasize that this is not how you should bend over to pick something up. It is just a nice way to get some motion through your spine.



You can also perform this bend in a chair. It's not as effective because you don't get a stretch through your glutes and hamstrings as you do when standing, but if you're stuck in a chair, you can at least get a stretch through your spine.



Break 7: Glute Smash

Even if you have a standing workstation, you will likely spend some part of your day leaning or sitting on your stool. The Glute Smash will prevent these large muscles from getting stiff. All you need is a ball and a flat surface. Sit on the ball, find an area that feels tight and ropy, and get to work. You can contract and relax (see pages 231 to 233) by flexing your glutes on the ball until the stiffness dissipates, or move your leg around to help “unglue” matted-down tissues.

For a more detailed description of this technique, see pages 299 and 300.



Break 8: Global Rotation

Most people intuitively twist their bodies from side to side when standing for extended periods. Like the Global Forward Bend on pages 172 and 173, Global Rotation is a way to get some motion through your spine. The key to executing this movement is to maintain a neutral position through your pelvis-lumbar complex. If you twist from an overextended position, you are really just hinging on a couple of segments instead of twisting through them all. So keep your belly tight as you turn. Shift your weight onto one leg and come up onto the ball of your opposite foot as you twist. Take it easy with this movement, especially with your initial twists. Rotate back and forth, keeping your arms relaxed, until your back and hips loosen up.





Break 9: Squat

Squatting is one of the easiest and most effective ways to strengthen your lower body and improve your flexibility. The best part is, you can do it right at your desk. There are several ways to approach the squat: you can squat all the way down, squat to a chair, or perform a supported squat. And you're not limited to repetitions. You can and should spend time in the bottom position, especially if your goal is to improve your flexibility. If you're the type of person who needs a benchmark, shoot for 5 to 10 squats, either full range or to a chair, and then spend the remainder of your 2-minute break hanging out in the bottom position, as if you were having dinner in Thailand.



To learn more about squatting technique and other supported squat options, see pages 111 to 115.

Break 10: Anterior Neck Mobilization

When it comes to adopting the forward-head-on-neck position, we're all guilty. It's nearly impossible to keep your head in a neutral alignment 100 percent of the time, especially in front of a computer. As a result, your neck flexors—the muscles in the front of your neck—get short and stiff. The Anterior Neck Mobilization is a great technique for cleaning up that area and preventing tension and pain. The tack and twist method (see page 237) is crucial here: you bind up the tissue by twisting a ball into your neck, and then you look away from the ball and move your head in different directions.



For a full description of this technique, flip to page 258.



Break 11: Arm Circles

Moving your shoulders through the full range of motion is one of the best ways to maintain shoulder flexibility. The keys here are to keep your shoulder in a neutral position as you circle your arm, keep your arm as close to your body as possible, and keep your elbow locked out. Pay close attention to the positioning of Kelly's hand and arm in the photos above. As with all dynamic movements, you want to start out slowly and then steadily increase your speed. Shoot for 10 circles with each arm, then repeat the sequence by circling your arm in the opposite direction. So, if you move your arm backward during the first set, circle your arm forward during the second set.

Break 12: Forearm Smash

If you type a lot or suffer from a repetitive stress injury like carpal tunnel syndrome, put a gold star next to this mobilization. It's a simple, low-tech way to keep the tissues of your forearms supple and healthy. Simply drive a ball into your arm, find a tight spot, and then move your wrist around in all directions. For even better results, rest your arm on your desk and use your other arm to massage the ball into tight areas.

For a more detailed description and some variations of this technique, see pages 292 and 293.





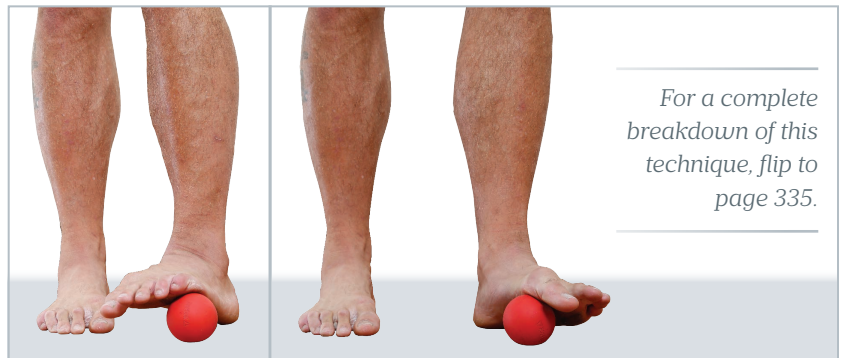
**Break 13:
The Michael Phelps**

We call this the Michael Phelps because swimmers do it as a warm-up before diving in for a race. It's a good way to keep your shoulders loose and get in some upper body movement. To perform this technique, hinge forward from your hips while keeping your belly tight (see pages 106 and 107 for proper hip hinging technique). Spread your arms wide and then hug your chest. As with Arm Circles, you want to keep your shoulders relaxed, start slowly, and increase your speed gradually.



Break 14: Foot Smash

Rolling out your feet on a small ball, like a lacrosse ball, is the easiest way to keep them supple. Your feet are going to get sore and tight, especially if you're standing and moving for most of the day. But it doesn't take much effort to keep them healthy. You can do this technique during a break or while working, so there are no excuses. Place a ball under your foot, apply some pressure, and get to work.



For a complete breakdown of this technique, flip to page 335.

Break 15: Wrist Mobility

This is a nice forearm and wrist stretch that you can do on the ground, on your stool, or in a chair, as demonstrated below. You can perform this mobilization with one hand at a time or with both hands simultaneously. The goal is to accumulate 1 minute with your palm(s) down and 1 minute with your palm(s) up.



Break 16: Shoulder Opener

The Shoulder Opener is a simple way to get some motion and a dynamic stretch through your shoulders. To perform this mobilization, raise your arms overhead and then—keeping your arms straight—throw them back as if you were paddling on a kneeboard. Keep your shoulders relaxed as you swing your arms. It's easy to let your shoulders round forward as your arms swing behind your body, so try to let your shoulders spin in place.



From Sitting to Standing: How to Transition Safely to a Standing Workstation

As standing workstations began to catch on, some critics inaccurately claimed that standing is actually worse for the body than sitting. Given the mountain of research pointing to the fact that sitting too much is horrible for our health, along with the well-documented benefits of standing, these criticisms defy logic. But let's recap what we know.

Sitting is suboptimal for two key reasons. The first is that a sitting body is an inactive one, and, as humans, we are designed to move. Our normal, healthy physiology depends on it. The second reason is that it is nearly impossible to move and maintain a good position while sitting. Standing, on the other hand, creates a movement-rich environment in which you naturally move and change positions and can achieve and maintain good posture.

If you have spent the majority of your life sitting for hours on end, it will take time and effort to transition to a standing workstation. The French social innovator André Godin said, "The quality of our expectations determines the quality of our actions." If you approach your standing desk with the expectation that the transition will take time, you are much more likely to be successful.

For that reason, if you have been sitting at your office for 8 to 10 hours a day, we don't think that you will succeed if you try to spend the same amount of time standing. To make the transition as seamless as possible, you must listen to your body and progress at your own pace.

Once people learn about the negative effects of sitting, they are often over-eager to transition to a healthier way of life. The result? They ditch their sitting workstations and attempt to stand all day, every day. In addition, they don't create an optimal setup or make it a point to incorporate movement and mobility breaks into the workday. This is like taking up jogging to get in shape and then going out and trying to run a marathon after a week. Don't set yourself up for failure. After all, you didn't turn into a sedentary, sitting-adapted person overnight. Adapting to the stimuli of standing, moving, and mobilizing will take time and attention.

While the ultimate goal should certainly be to eliminate optional sitting from your life, you must give your body time to adjust, which may mean spending a portion of your day sitting at the outset. When we first added standing desks to our office, we were shocked at how tired we felt at the end of each day. But, as we practiced standing more and more, that fatigue subsided. After about six weeks, we had transitioned to standing comfortably for the vast majority of the day.

What type of sitting-to-standing ratio should you implement in the beginning? Every person is different, and our best advice is to listen to your body: it is constantly sending you feedback. If your feet and legs start to ache, feed some love to those broken-down tissues by performing some basic maintenance. If that doesn't work, you might need to sit down for 15 or 20 minutes. Our recommendation is to limit your sitting to 20 minutes max—set a timer to keep yourself on track. And try not to allow your body to collapse into the chair.

Remember, too, that not all pain is bad. Sore muscles, for example, are a positive adaptation. Shifting from sitting to standing turns on muscles that may not have been used in years—muscles that take time to develop and strengthen. Learn to distinguish between good pain and bad pain. Making the distinction can be tricky at first, but the good news is that by following the principles outlined in this book, you will become more and more in tune with your body and what it is trying to tell you.

Here are a couple of tips to make the transition from sitting to standing a little easier:

- 1. Start slowly.** Rather than trying to stand for the entire day from the get-go, try standing for 20 minutes of every hour you spend at your desk. It doesn't even have to be 20 minutes straight. You can break it up by standing for five minutes and then sitting for 10. If you implement that strategy every hour, you'll have stood for two hours by the end of your eight-hour workday. Not a bad start! This is in addition to walking, moving, and mobilizing every half hour, of course.

2. Keep progressing. Stick with your routine of standing for 20 minutes of every hour until your muscles are no longer painfully sore, then progress to 30 minutes of every hour. Depending on your level of health, this might take a week, a month, or longer. The key is to progress at a rate that your body can keep up with. It's not a race, yet you want to constantly push yourself.

If setting a timer isn't your thing, consider standing for certain tasks. For example, if you spend a portion of your day making and receiving calls, commit to standing while you're on the phone. If you spend time answering emails or doing social media work, try standing while performing those jobs. This will get you off your rear end for a manageable amount of time and create a habit that you can stick to.

As long as you keep increasing the amount of time or the number of tasks that you perform while standing, you'll soon be on your feet for the majority of your day. However, if at any time along your journey you feel pain brought on by strain or fatigue, reduce the amount of time you spend standing until your body can catch up.

