ergonomics and home offices

Working from home seems like a great idea for the first day or two, and then discomfort sets in. This presentations reviews how set up your office to optimise comfort and productivity. We'll show you:

1. How to set up a chair (even a kitchen chair!)
2. Where to put your laptop, keyboard, mouse, and screens
3. How to set up a standing workstation
4. How a variety of working postures can give your muscles a break.
5. Which stretches and strengthening exercises might be helpful.

setting up your home office

So you're at home with a laptop – what next?

Look for a quiet place to work, with a chair and a table and, ideally, a door.

A laptop is not a suitable device to use for long periods of time; whenever your hands and eyes need to be on the same item, your neck or arms will suffer.

If possible find or purchase an external keyboard and mouse, or screen.

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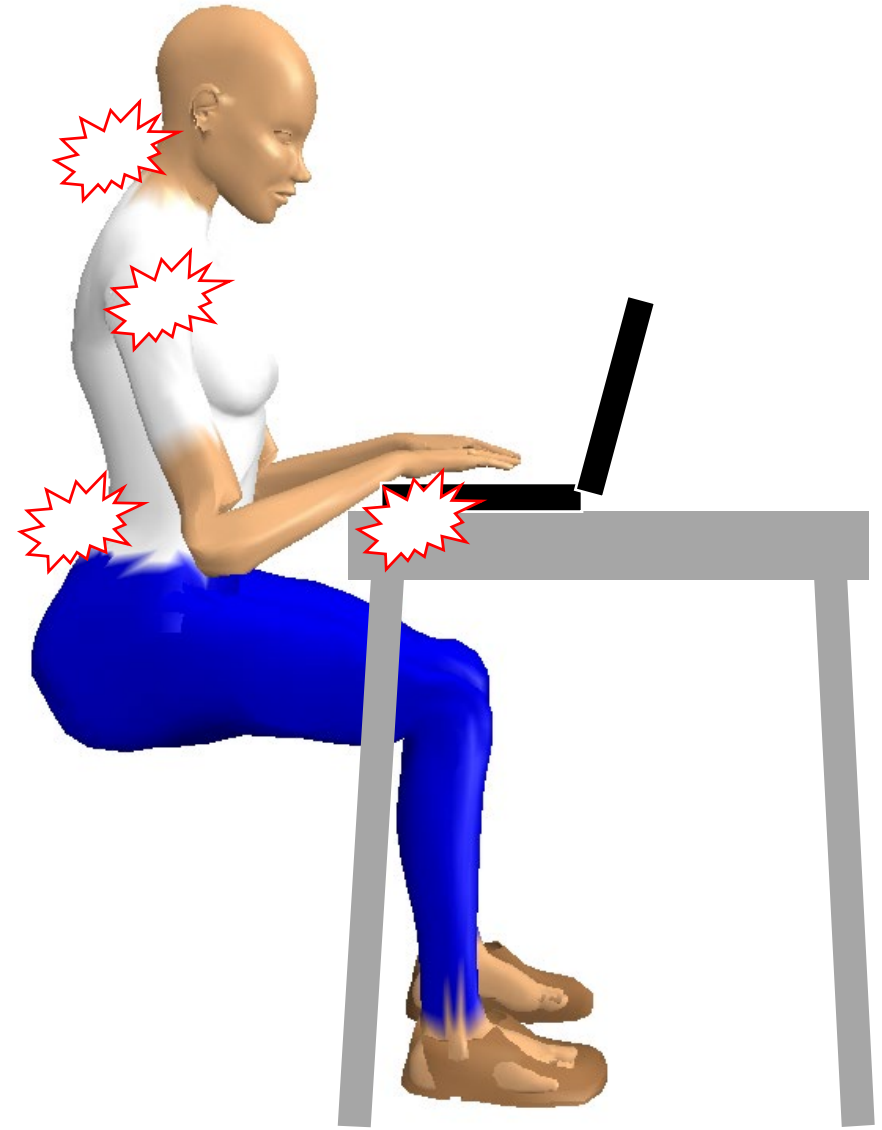
For short periods of time, you can manage with a laptop.

Raise the back of the laptop on a book or empty binder. This raises the screen, and allows you to type with straighter wrists and more relaxed shoulders. (It's not ideal – the screen is still too low, and the keyboard is too high.)

let's start with the chair

Find a chair that allows you to sit with your hips and knees at about 90 degrees, and your back nearly upright. If you don't have an office chair, then a kitchen chair is a better choice than the living room furniture.

If you plan to stand up to work, we'll help you with that later.

First, if possible, you should adjust the seat height. Sit in the chair with your butt all the way back against the backrest. (In fact, try to sit this way all the time!)

If your keyboard height can be adjusted, adjust the seat height so your feet are firmly supported on the floor. This adjustment feature is usually the lever on the right side of the seat.
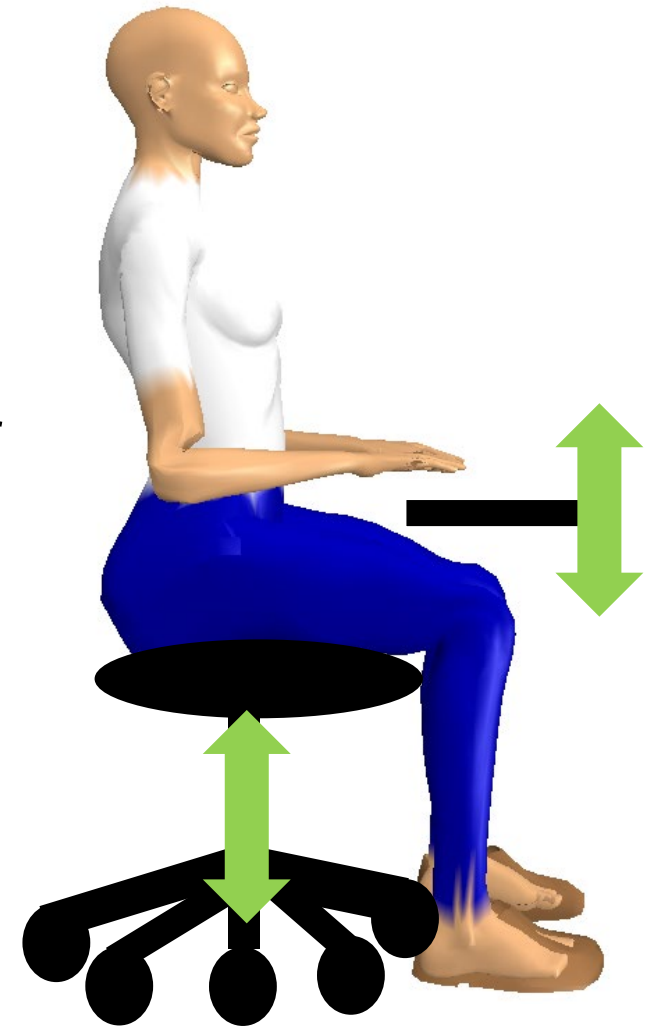
If your keyboard is on a surface that won't adjust in height:

1. Raise or lower the seat so that your elbows are the same height as the keyboard surface, when your upper arms are resting at your sides.

2. Most people will then need to put a footrest (or a box, or stack of books) under the desk to support the feet. Use a tall enough stack to alleviate any pressure under the thigh, but not so tall that your knees are higher than your hips.
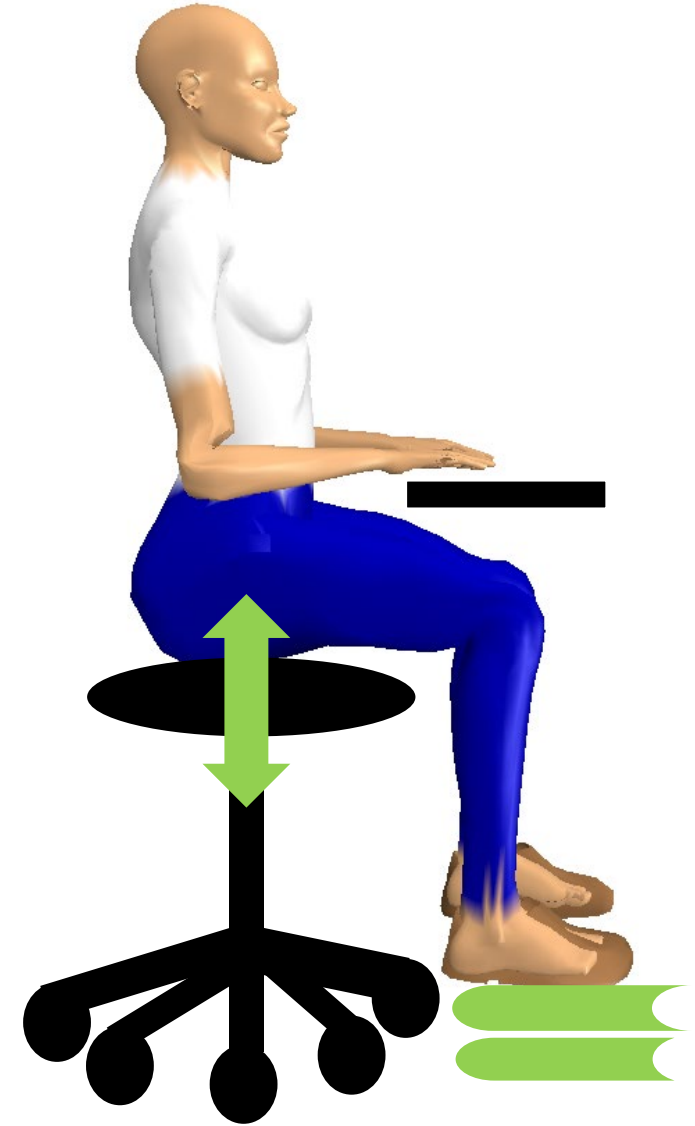
If your seat doesn't adjust in height, you'll need to find a way to adjust your keyboard and screen.

An ironing board might work, but make sure that it's sturdy.

You can use a pillow to raise your seat a little bit.
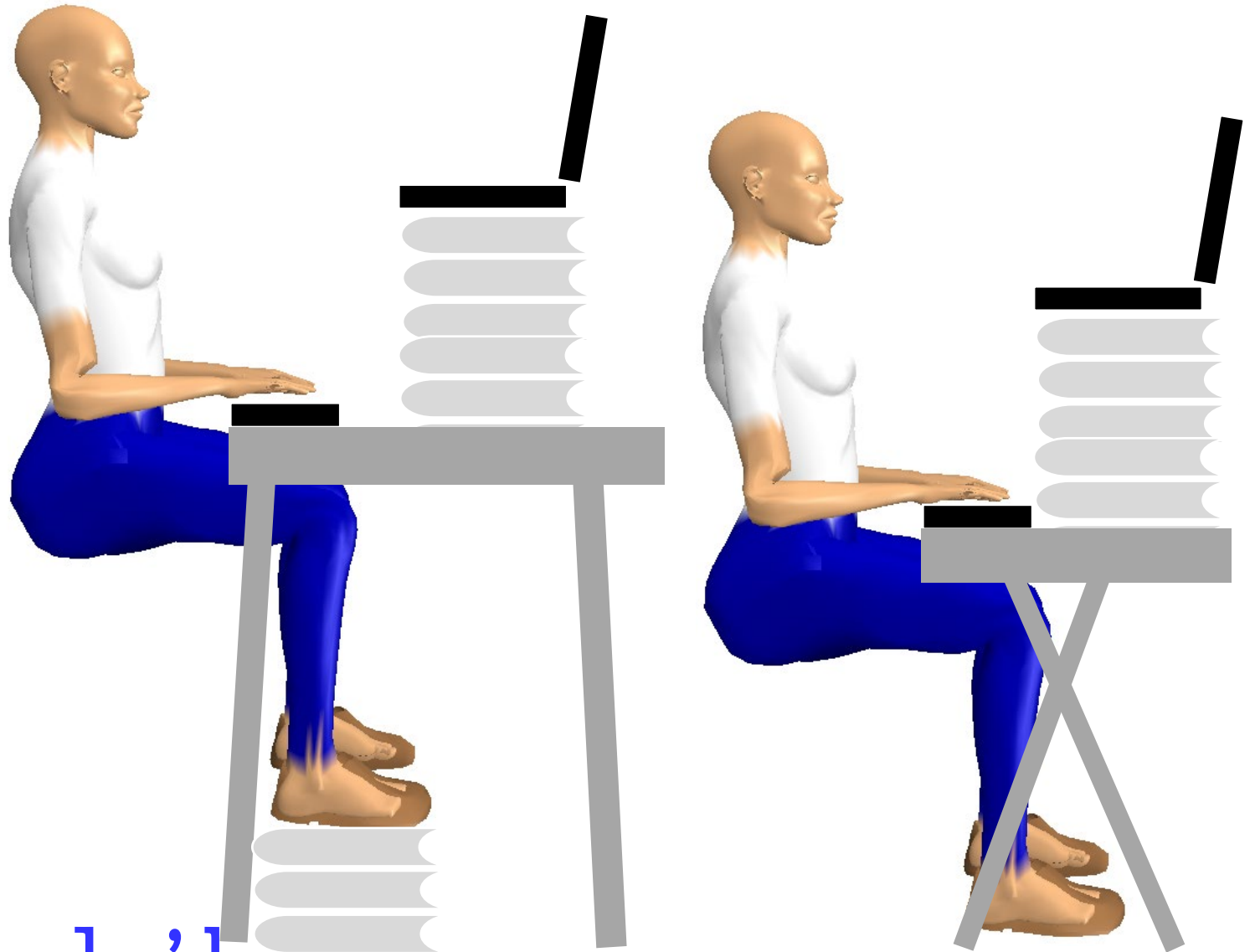
Next, look at the seat size:

1. There should be space for 2-3 fingers between the back of your calf and the front edge of the chair.
2. If there is no space, you need a smaller seat pan – some adjustable chairs offer a sliding seat pan. If your seat pan doesn't slide forward and back, you may need to hunt for a smaller chair, or find a portable backrest or pillow to put behind your back to push you forward.
3. If you have too much space, you may need a deeper chair.
4. Similarly, your seat should be wider than your legs. If your legs are wider than the seat, you need a bigger seat.

If you can't find an appropriate seat, it's particularly important to make sure your feet are supported.

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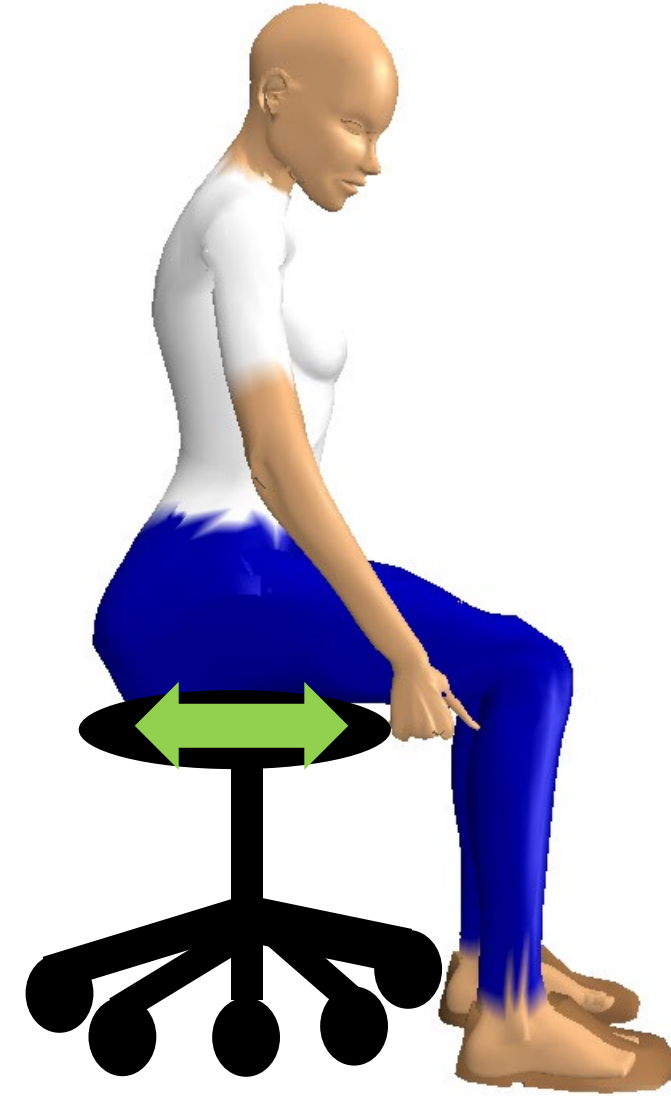
Lumbar support is very important, for reducing lower back discomfort.
1. Adjust the height and angle of the backrest or lumbar support so that you can rest against the backrest while viewing the screen, and your lower back curve is supported.
2. Your head should balance over your torso like a bowling ball sitting on a pillar – if the pillar isn't upright, or the bowling ball is tipping off the edge, your neck muscles will get tired.

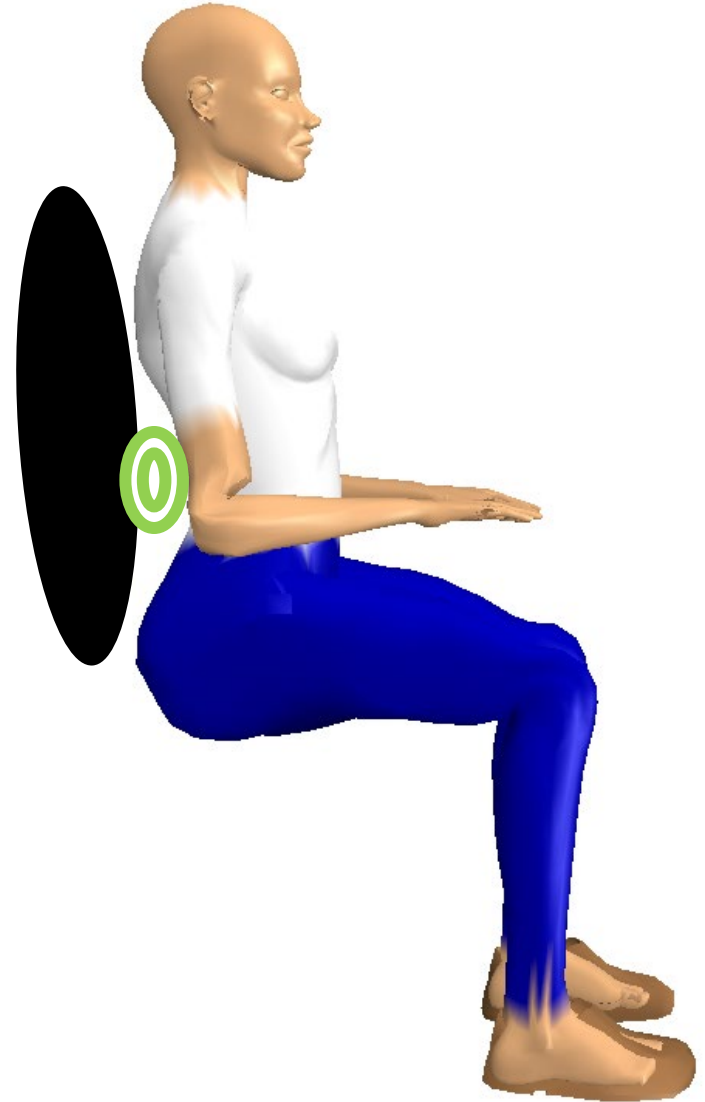© taylor'd ERGOnomics Incorporated
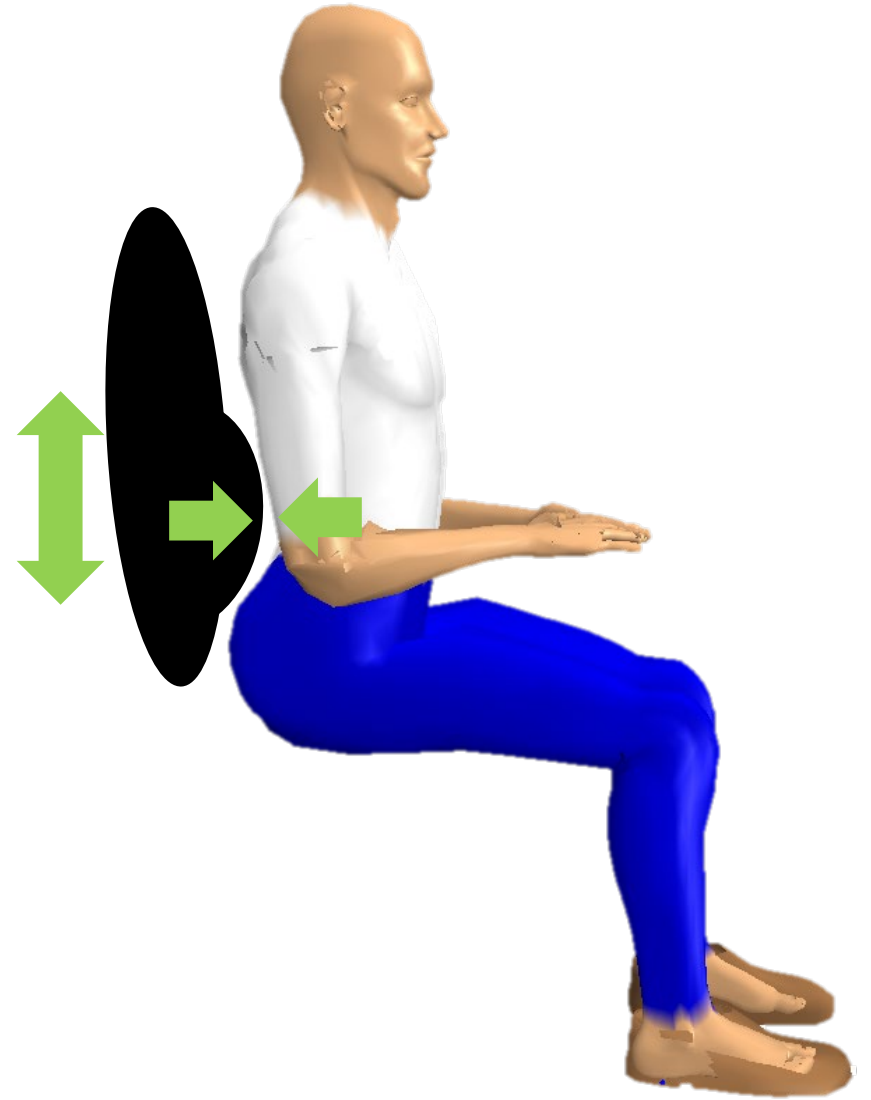
Having trouble finding your lumbar curve?

1. Stand up and run your hand up and down until you find it.

2. Then keep your hand there when you sit, so you can feel the fit between the backrest "lump" and your back.
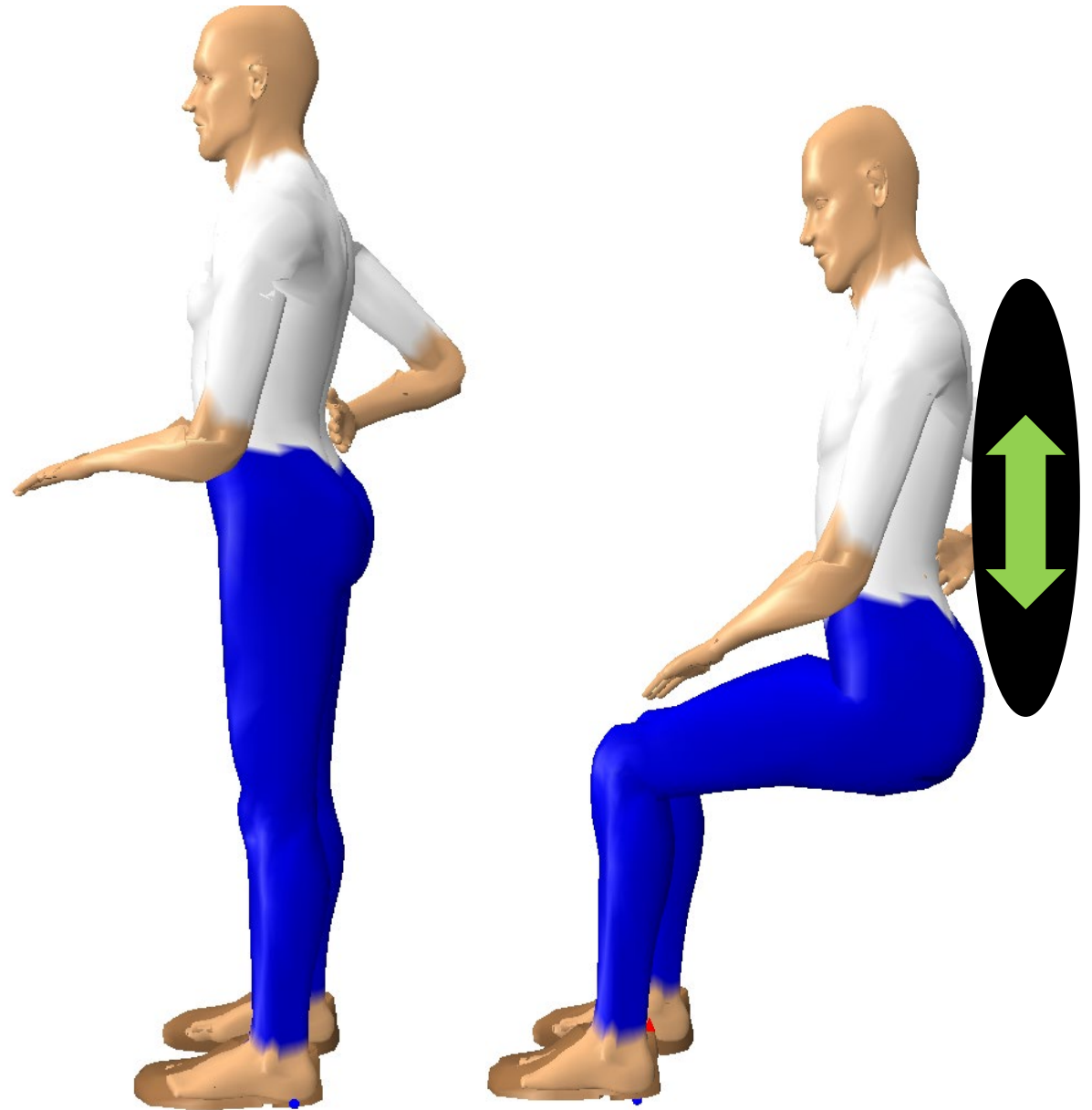
If your backrest doesn't support your lower back, try rolling up a towel to fill the gap between your lumbar curve and the chair.
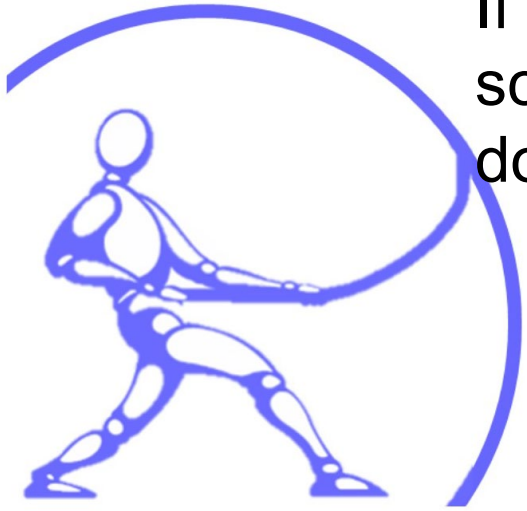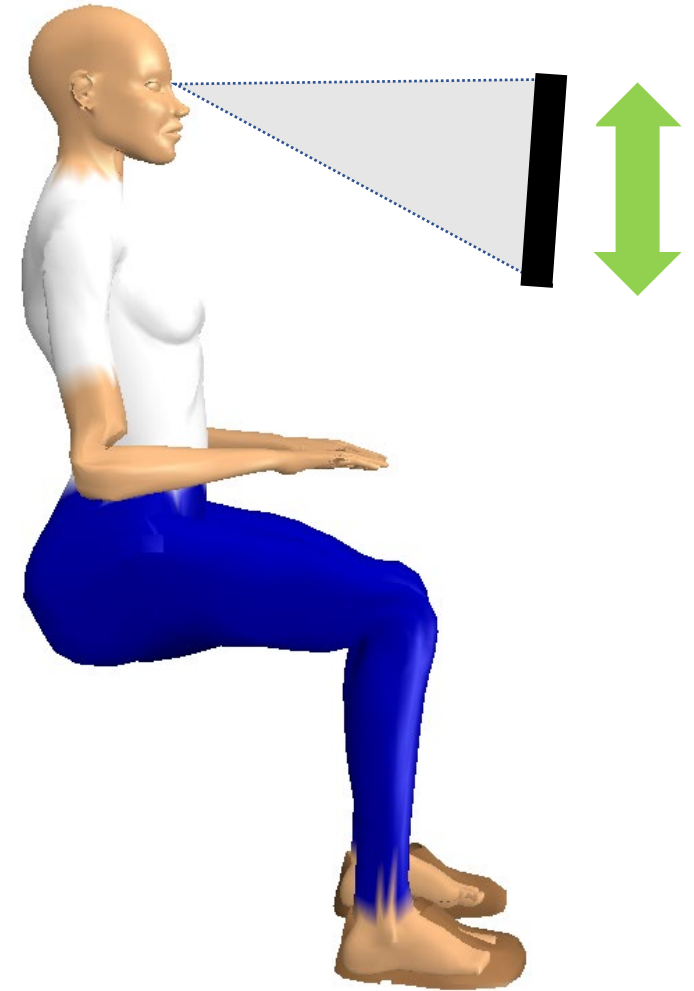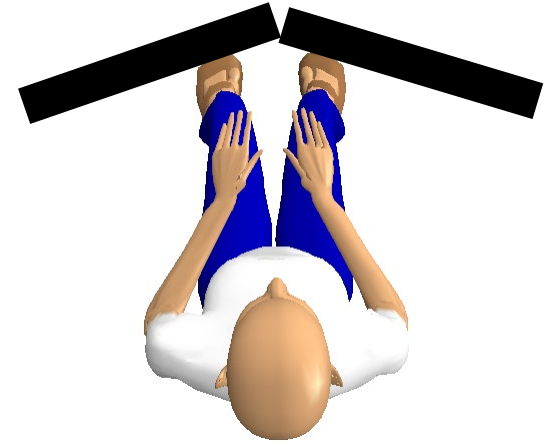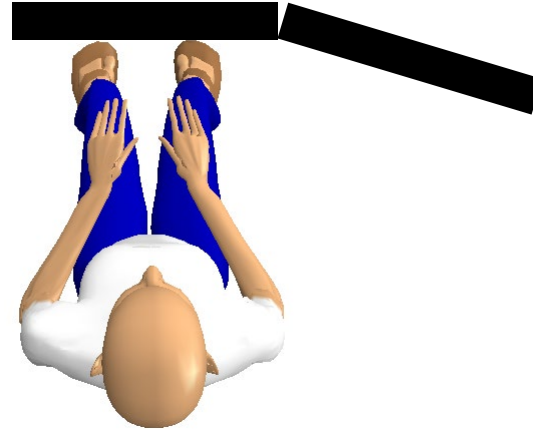
the screen

If you choose to connect to an external screen, position it at seated or standing eye height – the top of the glass should align horizontally with your eyes.

If you are using your laptop screen, prop the laptop up on a shoebox, empty binder, or stack of books, so the top of its screen is at eye height. Remember the pillar and bowling ball!

If you wear bifocal glasses, your screen should be lower, so you don't have to tip your head back.

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1. If you're using one screen, center it in front of you, with your keyboard centered as well.
2. If you use dual monitors, consider which screen you use most, and put it in front, with the secondary screen off to the right. (Why right? Because the material on the screen tends to open on the left-most side, so it's closer to center when the screen is on the right. If you use your laptop as the second monitor, put it to the right. This reduces neck twisting.)
3. If you truly use both screens equally, center them in front of you, with the smallest gap possible between the two screens.

lighting

If you have windows in the room, you might experience glare. Ideally, you should sit with the windows to your right or left, not behind you, and not behind the screen. If you can't re-arrange your "office", close your blinds when it is bright.
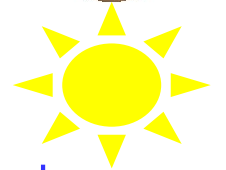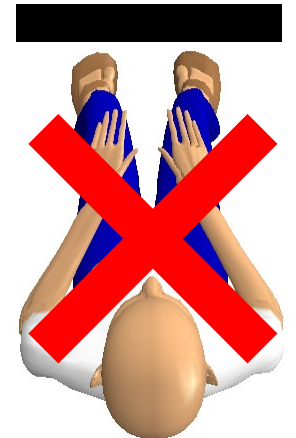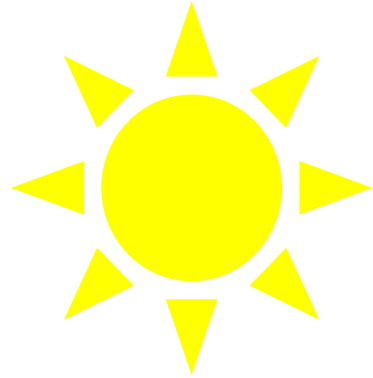
viewing distance

How far away should the screens be? Ergo folklore suggests "arm's length" – we wonder if long-armed folks really have better eyesight than their short-armed co-workers? Every person's vision is a bit different, so you have to experiment to find optimal viewing distance. If you find yourself leaning back, push the screen away. If you find yourself leaning forward to bring the screen into focus, pull the screen closer.
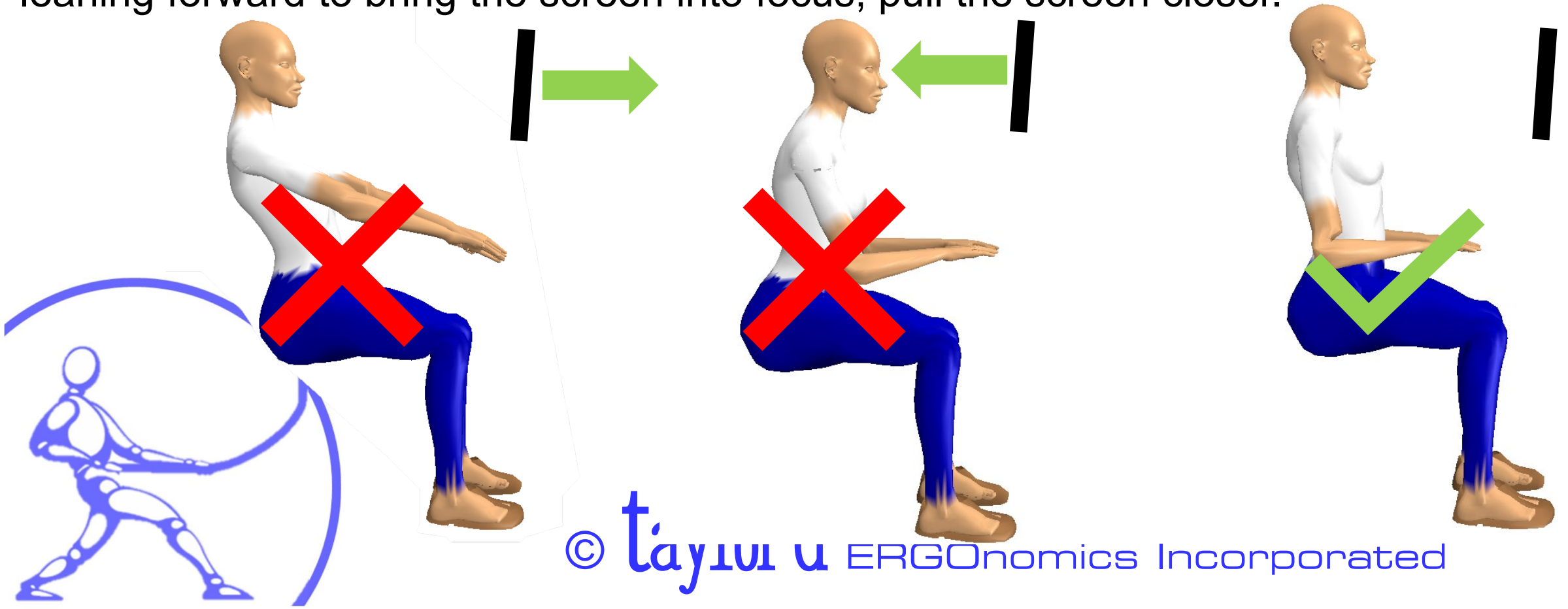
the keyboard and mouse

Input devices should be at elbow height, typically flat, and as close as possible, allowing you to type and mouse with the inside of your elbow resting against the side of your shirt.

If you need to look at the keyboard to type, you can tilt the keyboard up a bit, by folding out the legs on the bottom of the keyboard.
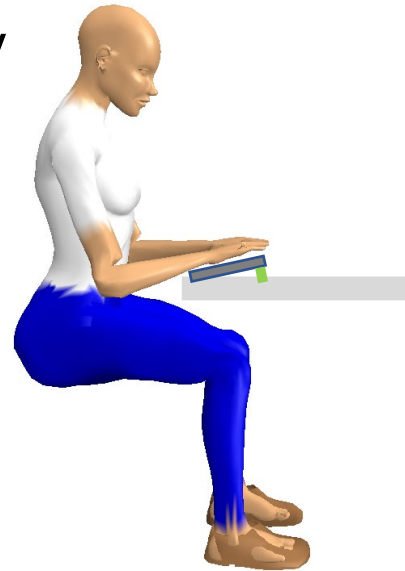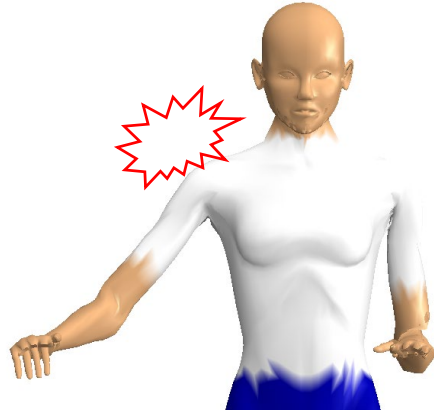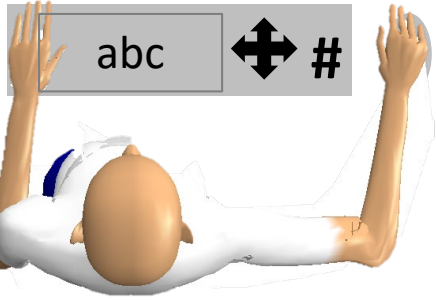
We encourage you to "float" your forearms while typing, and rest them on the desk only while you are reading the screen.

If you rest your forearms, wrists, or palms on a hard surface, you should use a soft wrist rest, which you can order online, or you can create by rolling up a towel.
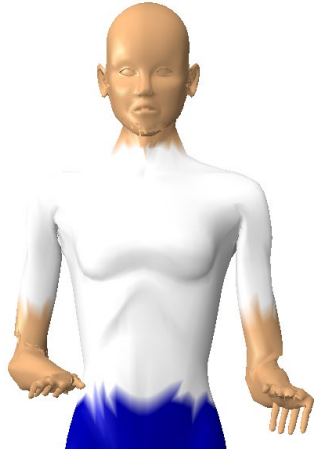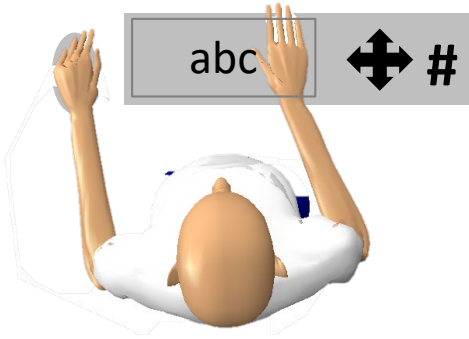
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right mouse

abc ✥ #

left mouse

abc ✥ #
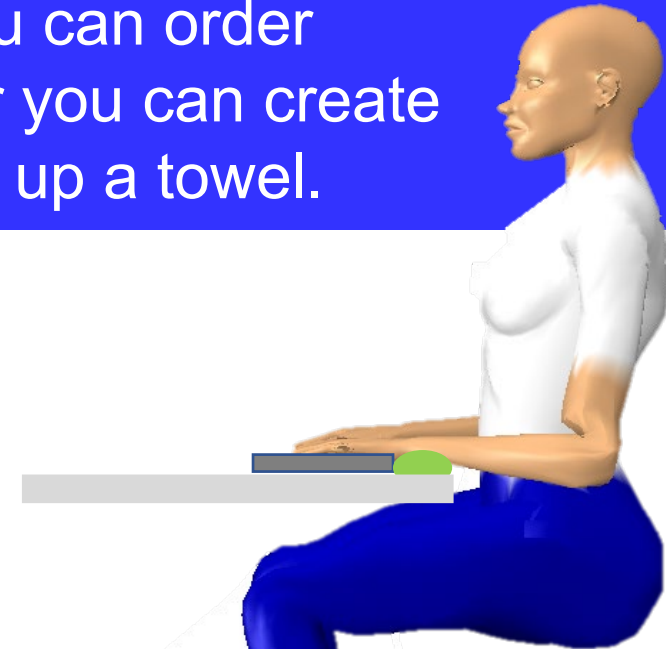
If you're right-handed, you may experience shoulder discomfort due to reaching for a mouse.

If you have time on your hands, try putting your mouse on the left.

Using the mouse with your left hand:

1. Gives the right hand a break

2. Makes space for a coffee mug or phone on the right side of the keyboard, and

3. Positions the mouse closer to your center (no number pad in the way).

Be sure to you adjust the computer settings accordingly, so your brain can quickly adapt! (i.e. Switch the mouse keys in the control panel.)

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If you're a visual typist (you look at the keyboard), working from the privacy of your home presents a great opportunity to learn how to touch-type.

Go online and search for free typing tutor software. Learning to type without bobbing your head up and down is a wonderful gift you can give yourself in about 10 minutes per day. You'll get more relief from neck pain through this effort than any other adjustment!

paper, phone, and devices (phones, tablets)

If you use paper documents, try to find a way to tilt them up toward you, so you don't have to bend your neck. An empty binder might work.

If you use a phone while you are also typing, you should use a speakerphone, or a headset. Avoid typing while holding the phone between your ear and shoulder.

If you use devices, try to limit their use to no more than 5 minutes per hour. Tilt the device's screen up so you can read it without holding it in your hand.

If you must use a hand-held device for longer, rest your elbows on a soft surface and hold the screen closer to eye height, to avoid a sore neck.

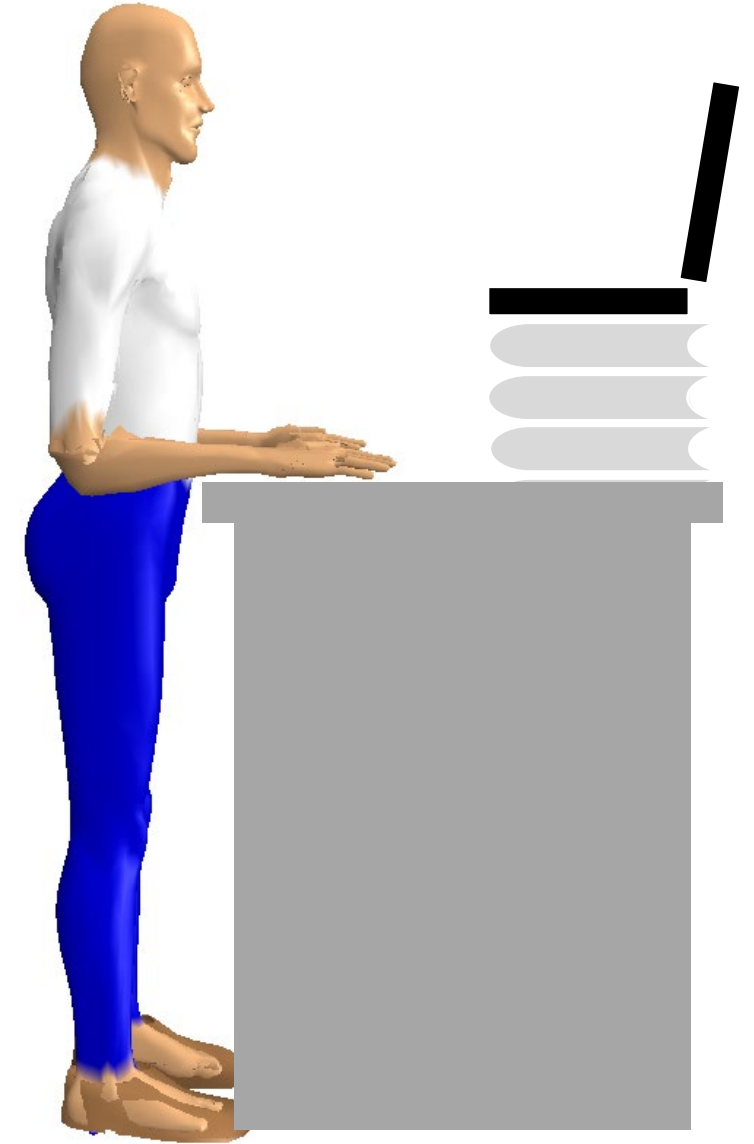© **taylor'd** ERGOnomics Incorporated

give standing a try

Find, or use boxes to create a surface that is at your standing elbow height. Put your keyboard and mouse on it, and raise your screen to the appropriate height. You've made yourself a standing workstation!

Make sure that you wear comfortable shoes – it seems luxurious to work in your socks, but it's not great for your legs or back!

When you're just starting out with standing, make sure that you don't overdo it.

Stand for about 15 minutes at a time, once per hour or so. You can work up your standing time after you get used to it. Standing can be healthier for your back, neck, and arms!

variety
is the key to comfort, in less-than-ideal work settings. Don't be afraid to use non-traditional working postures, for short periods of time throughout the day.
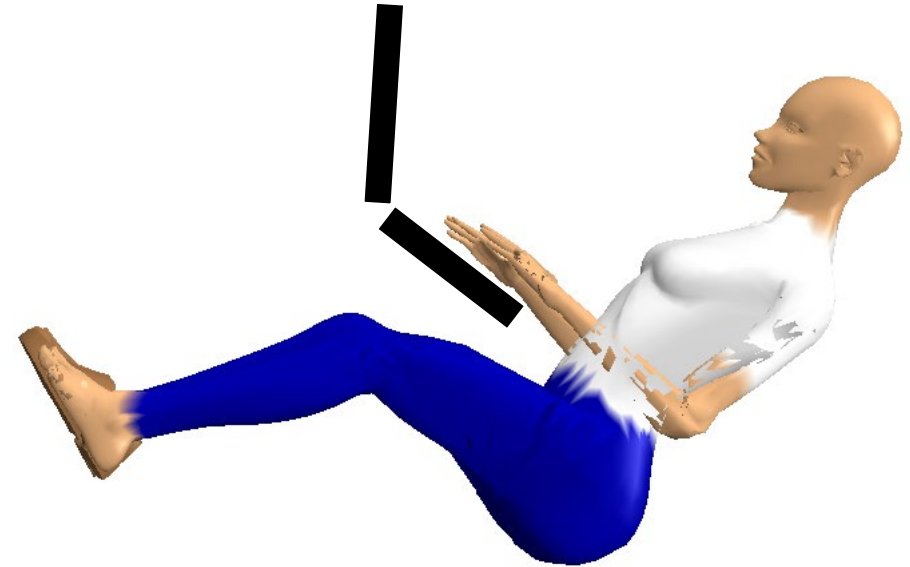
stretch!

Most people need to take more frequent stretch breaks at home, since they are often working under less than ideal conditions. In a home office, you'll have plenty of distractions to get you out of your chair.

If you get stiff and sore, stretching can help.

After sitting for a long time, this back extension stretch can be a huge relief!

strengthen!

Did you know that research shows that people are more successful at standing at a computer, if they strengthen the muscles they use to stand? Here are a couple of strengthening exercise suggestions. (More are included in our sit/stand presentation series – ask us for info.)
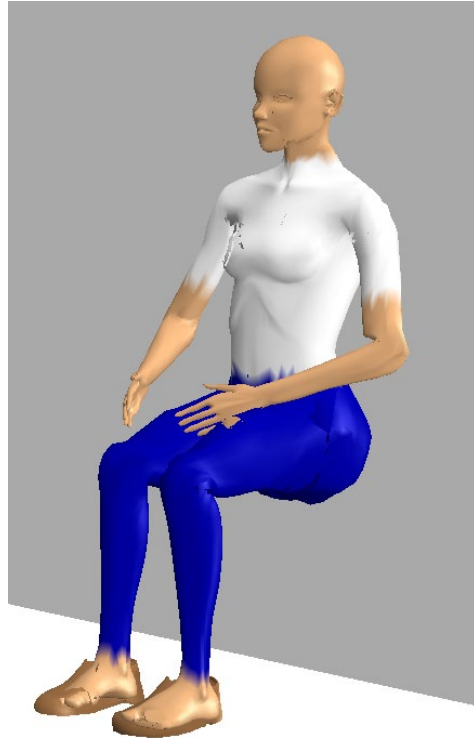
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ask for help

If you're experiencing discomfort, you need to take action before it turns into an injury. Workplace injuries can happen at home or at the office, and your employer doesn't want to put you in danger of back, neck, leg, or wrist injury!

Contact your employer to request a remote ergonomics assessment. An ergonomist will work with you, through surveys and videoconference, to help you get more comfortable at "work".

ergonomics and home offices

Thank you!

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