Low Cost/No Cost Upgrades to your Temporary Home Computer Workstation

The campus ergonomics program is not able to conduct onsite ergonomic evaluations of employee's temporary home workstations as part of the COVID 19 Shelter in Place order. This fact necessitates more active engagement by each employee working this way to assure you are set up well and are aware of and using best practices on how to protect yourself in this new work environment.

If after reviewing the information available on this page and the links provided you have further questions or issues regarding your own home workstation you should inform your supervisor and contact the ergonomic program at **ergocruz@ucsc.edu**

Telecommute Tips:

Step 1: Training

All UCSC employees are responsible for creating and maintaining a safe work environment. By using ergonomic principles and best practices, potential injuries may be reduced in severity and prevented. It is important to be pro-active and avail oneself of learning opportunities to understand or refresh one's understanding of the basic ergonomic principles and practices recommended for computer work and to actively employ them in the way we arrange our workstations and work activities at home and in the office. So the first step in setting up a supportive workspace is to review the basic principles and practices of healthy computer ergonomics. It is recommended that each employee working remotely take the online ergonomic training for computer users and complete the online self-assessment on your home set up. This will refresh your understanding of the nuts and bolts of how to set up your workstation successfully and help you identify specific things to do to achieve success. After completing the training, check out the "Telecommute Tips" section below for low cost/no cost strategies for achieving a great set up.

UCSC online ergonomic training for computer users:

Enter you CruzID and Gold password to log into the UCSC Learning Center to access the Ergonomic Assessment and Training Module. NOTE: If you have forgotten your CruzID Gold password or need to set that up You can do so at the ITS accounts webpage, or email ITS at: help@ucsc.edu

The Telecommute Tips here provide in-depth suggestions on how to improve a variety of computer setups, often at low or no cost. Start by making one or two changes that best suits your home work area. You do not have to make sweeping changes all at once. Incremental change allows you to "test out" those changes and decide if more are necessary. Resolving discomfort associated with computer work can be tricky but by reviewing these fact sheets, and making a few changes over time, you will have an optimized computer workstation that reduces stress on the body and improves comfort.

Step 2: **Identify your work areas**

Having a dedicated work area is important to successful telecommuting. An ideal work area will have minimal distractions and sufficient space for your computer, paperwork, and other tools. However, you may need to, or want to setup more than one spot to accommodate the changing activities of others in the home, or for a change in pace. The following are a list of potential spaces:

• **Home office with computer desk:** Ideal space to telecommute. A dedicated work area intended for this purpose with minimal distractions.

• **Computer desk:** Consider moving the desk to a private area of the home if possible. If that is not possible, set boundaries with the other occupants in the home. For example, having quiet hours during work/class times and keep noise/calls isolated to another room.

• **Dining room table**: This is another option in a shared area of your home. Like above, communicate with those that you live with to create a space that will allow you to stay productive while working.

• **Kitchen counter:** This can be a great option for setting up a standing workstation. Keep in mind kitchens are one of the busiest rooms in the home. Controlling distractions can be difficult when considering others. Static standing for prolonged periods is tough on the body, but the kitchen can be a good alternative location for working part of your day while standing.

• **Floor:** Floors can be uncomfortable and are not generally recommended, however if other places are too distracting or space is limited then ensure that you have sufficient back support. Changing positions frequently is very important when working on the floor.

Step 3: **Adjust your chair**

Properly adjusting your chair improves comfort. Many common seat options found in the home are fixed height and do not adjust in the same way as your office chair. However ,dining chairs and sofas can be adapted with a few simple changes to fit. Please refer to the colored reference lines in the photo as you go through each step.

•**Support feet firmly on the floor**: When your chair is too high your feet dangle unsupported. Your weight of your upper body is shifted forward. This will encourage slouching forward as your sit. Use books, a box or a foot rest to provide foot support.

•**Adjust the seat height**: Your thighs should be close to parallel to the floor with your knees and hips close to the same height. (Image 1 Orange line)
>   Use a cushion. Seat cushions can raise your seat height if it is too low. If a seat cushion is not available, consider using a firm pillow or large folded towel.

>   (Chair too high? Use a footrest – Chair too low? Use a seat cushion!)

•**Fully engage the backrest:** If you are slouching to touch the backrest with your back or not able to touch it with your back you will need build up your backrest. You want to maintain the S-curve of your spine. (Image 1 Green dotted line)

> Place pillows or a cushion between you and the backrest. Start from the hips and continue up so the mid and lower back are well supported. An easy way to build back support is use a rolled-up bath towel. Your can roll it to just the right size for best individualized low back support. You can stabilize it's position on the chair back with a strap as well.

> If the chair has armrests, adjust the height to just below the bottom of your elbows. If your armrests are in the way or cannot be adjusted,
> remove them, or select a chair without armrests.

Image 1
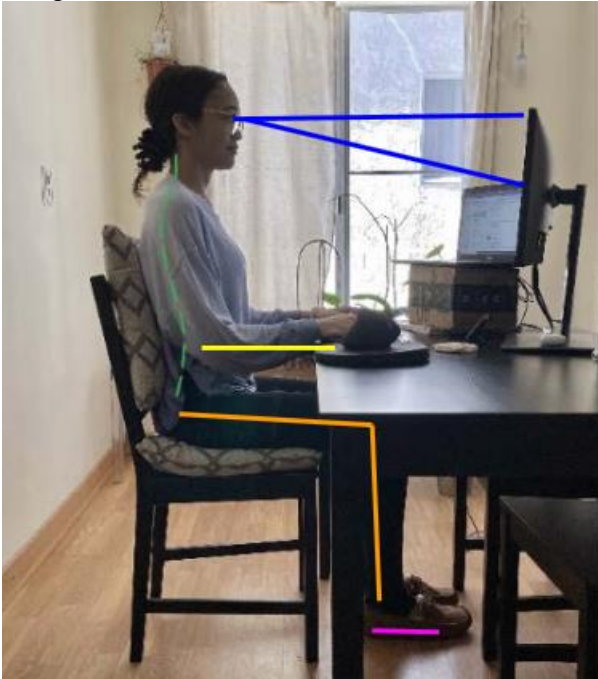
**Other examples of supplying low back support to non-ergo dining chairs**

Step 4: **Keyboard and mouse position**

Properly positioned keyboard, mouse and other frequently used items reduces strain on the joints and muscles. Be aware of your primary and secondary reach zones shown in Image 2. The primary reach or "easy reach" zone is the area directly in front of you where your forearms can easily sweep over the area with your elbows at 90 degrees and your body in contact with the seat back support. (Image 2 Green arc). Place these items in the primary reach zone along with other frequently used tools such as pen and paper. The secondary reach zone is the area you can reach with your arms fully extended out in front of you while seating supported against the seat back. Less frequently used items such as books, phones, or other reference material can also go there. (Image 2 Yellow arc). The height of your keyboard & mouse is best when at same height and in -line with your elbow height while seated. (Image 1 Yellow line).

(A small cloth or towel can be rolled up and placed in front of the keyboard or mouse to act as a wrist rest!)

Image 2
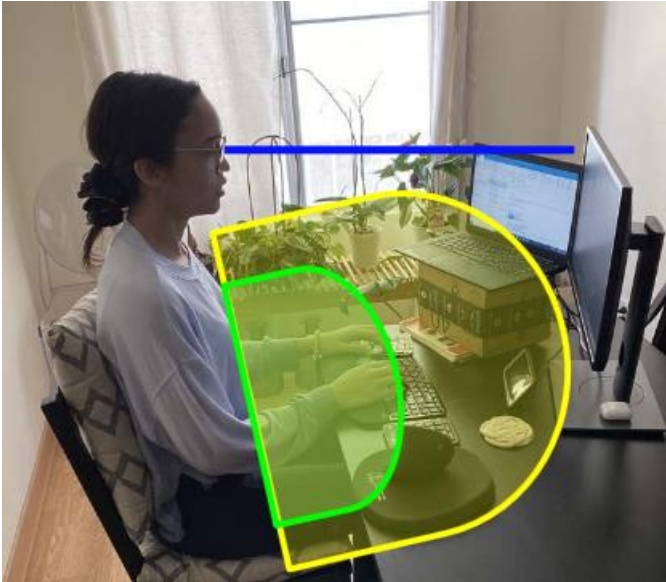
Step 5: **Monitor/display position**

Position the top of your monitor at seated eye level (Image 3 Horizontal Blue line). You can use boxes or books to elevate the laptop display or external monitor to a comfortable height. This reduces fatigue and neck tension associated with looking down at the screen. If you wear progressive lenses you will need to adjust the display lower however to avoid raising your chin (tensing your neck) when viewing it. Place your monitor at an arm's length away, give or take an inch or two. Start just beyond your secondary reach zone and adjust as needed so reading is clear and sharp and comfortable. Other adjustments you can make for viewing the display is to adjust the font sizes, page magnification and brightness in your computers display settings or in your browser settings. Lastly, align your monitor(s) relative to your seated position. When properly placed the monitor, and keyboard will be in-line with your navel (Image 3 Magenta line).

Image 3
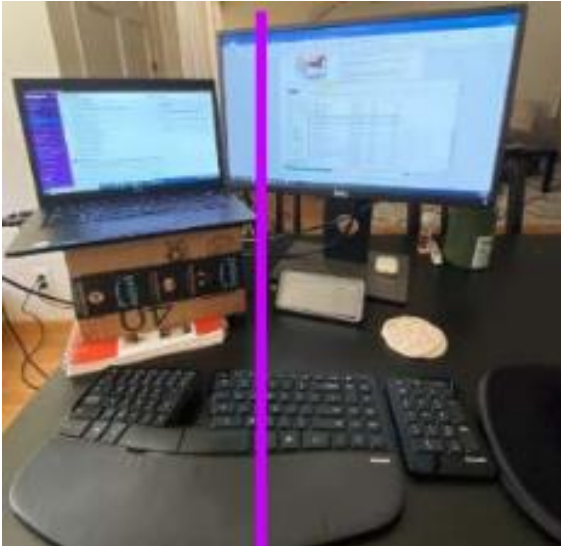
Special Note on Laptop Use: When using a laptop primarily at home <u>it is very important to use it with an external keyboard and mouse.</u> The design of the laptop is very poor from an ergonomic standpoint. This is because the screen and keyboard/mouse area are built so close to each other. This makes it not possible to achieve a completely supported work posture while using a laptop by itself. So by using a separate keyboard and mouse you can then raise up the laptop screen to the desired comfortable height and distance.

Another possible alternative could be to instead of adding a separate keyboard and mouse you add a stand-alone monitor. This way you can set the monitor up at the correct height and distance and use the laptop keyboard and trackpad at it's correct position. Some people prefer this strategy because they prefer the feel of their laptop input devices.

Image 4

A rolled up hand towel or face cloth can be arranged to serve as a keyboard or mouse wrist rest.
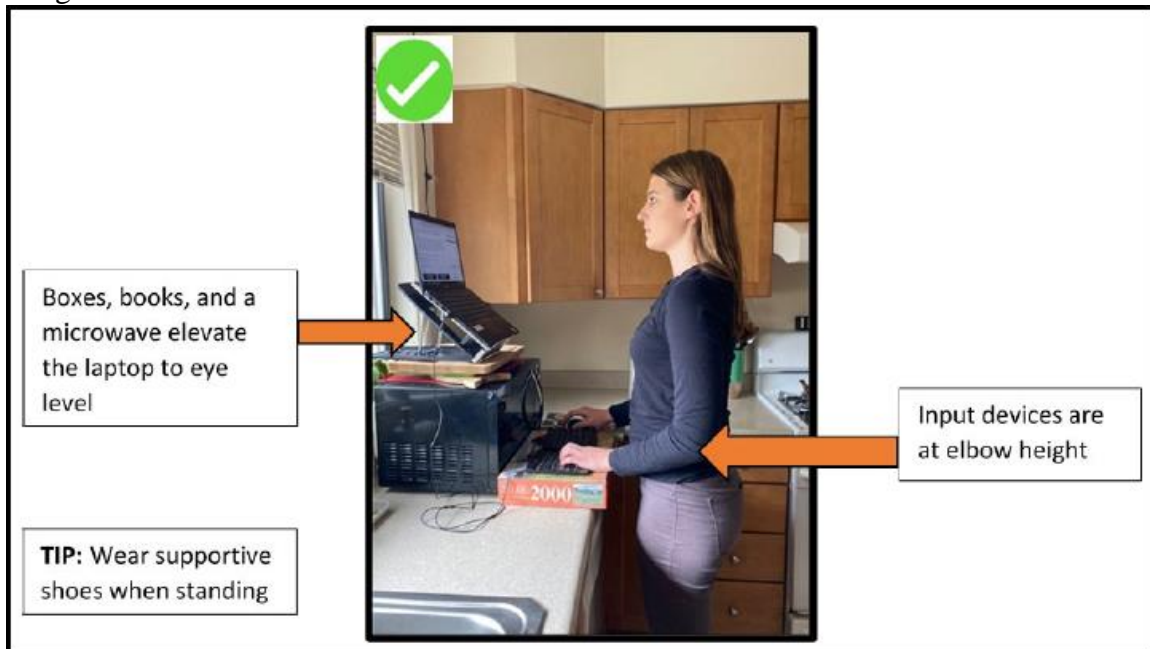

Step 6: Standing workstations

Having the option to stand and work for part of your workday can help support the practice of moving and changing ones posture frequently. By alternating between sitting and standing while computing you build into your routine the practice of regularly changing your posture. This helps reduce the build-up of tension because you are not remaining in a single seated posture for prolonged periods**.** But standing to work is not always an option either. So other effective ways to prevent prolonged static seated posture is to simply develop the habit of taking frequent short "movement breaks" to get up from sitting and move around. For more on movement breaks, see that section below.

When setting up a standing workstation at home it is often useful to take advantage of existing higher counters in the kitchen or other areas. Keyboard, mouse, monitor placement is done very similarly to that described above for a seated workstation with your input devices placed within your easy reach zone and your monitor at near eye level, arms-length away and in line with your body. Good foot support is important and can be achieved by wearing supportive footwear or using a cushioning mat.

Image 5

Boxes, books, and a microwave elevate the laptop to eye level

Input devices are at elbow height

TIP: Wear supportive shoes when standing

Remember that standing for long periods of time can be just as stressful to the body as sitting. Any posture held too long can be problematic. So if you do like to stand to work it is still vitally important to be careful to take regular breaks away from the computer and to sit for part of that time.

Step 7: Very alternative workstations

Couch

Although we would recommend to avoid sitting on a couch, it may be an option if you do not have a dining table to work at. Similar to the dining table chair, make sure there is adequate support using pillows, towels, etc. to maintain and support your spine. It is recommended you do not work with a laptop resting on your legs for an extended period of time, as it can heat up and prevents you from being at the optimal posture as well. Pillows are also not a good idea to place between your legs and the laptop as it can cause the laptop to overheat. A lap desk, other platform or box that allows adequate venting for the laptop could suffice in bringing the laptop screen to the appropriate height. Small end tables can also possibly be used as the work surface. (Image 6)

Image 6

Bed

Employees are encouraged to work at a desk or table. If choices are limited, follow these steps to position yourself in bed. An optimized set-up will improve comfort and efficiency. Good back support is important when working in bed. Start by building continuous support from the hips through the shoulder blades. A common mistake is to pile pillows behind your head and the headboard or wall. This results in a very up right or sometimes head-forward posture. An optimal and supported posture is to work in a slight recline. To do this place a rolled-up bath towel behind your hips and stack pillows in decreasing density. Place denser pillows on the bottom to form a firm base of support for

the hips and lower back. Tapper soft or flat pillows above the towel to support the mid and upper back comfortably. You will end up with something that look like a wedge. Good quality, low cost upholstered memory foam bed wedges are widely available at home good stores, pharmacies, or medical suppliers. Higher end bed wedge systems are available; however, you can usually replicate these with a foam wedge and pillows or blankets. With the back supported in a slight recline try to elevate your knees. Use a few firm pillows or a rolled-up towel and place them under your knees and calves. You should feel supported from the knee to ankle. Elevating the knees reduces strain on the lower back and improves circulation through the lower extremities. Wedges are available online. Wedges for the legs are different from ones for the back and are often trapezoids or half circles to allow the knees to be relaxed.

Every so often, change your position by raising and lowering the knees and adjusting the backrest angle to be upright or reclined. You will want to alternate the backrest between 100° and 120°. Take breaks every 20-30 minutes. Remember to also give your eyes a rest and practice the 20/20/20 rule. Every 20 minutes by looking 20 feet away for 20 seconds.

Step 8: **Movement and Breaks**

Movement is important to relax muscles and increase blood flow to reduce fatigue and stress. It is important that you take breaks and move about throughout the day. Disengaging from computer/desk work for 5-10 minutes every hour also improves focus and increases productivity.

Dining tables and couches are, in nature, less conducive to a supported working posture. For this reason it is more important than ever to be mindful of your standing/movement break schedule. Take more frequent breaks: 5 minutes every 30-40 minutes to move around or stretch to promote circulation and prevent stiffness. Due to it's design limitations, working on a laptop only for long periods is a significant source of increased muscle tension in the entire upper body.

See the handout of computer/desk stretches. When it comes to stretching always follow these rules to get most benefit.

Perform stretching slowly and easily
Do not do any movements that cause or increase pain
Breathe deeply and easily while stretching to increase oxygenation of your blood
If you have any condition that would possibly make doing any stretches not advisable discuss this with your health care provider
Be consistent. Stretch regularly at intervals daily.

Some additional break ideas:

Set a timer to remind you to stop and move and stretch.
Practice 6 feet of social distancing and go for walks regularly!

Relaxing your eyes:

Use the 20/20/20 rule to regularly relax your eyes and prevent eye strain. Every 20 minutes or so stop looking at the computer screen and focus your eyes on something more than 20 feet away. If you can look out a window that works best but just look at something that is as far away from you as possible even if it is in the room you are in. Focus on that object for 20 seconds while breathing in a relaxed way.

Moving our bodies throughout the day is one of the most important and effective ways to reduce muscle tension from prolonged sitting, standing and computer work. Even the best chair, desk or other workstation equipment will not prevent damage to your body over time unless it is used along with a routine of regular moving and stretching.