

Checklist: Fatigue or Pain Related to Computer Use

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Fatigue, insomnia, chronic headaches, migraines, back pain, shoulder injury, or wrist disorders can be a sign that computer use is affecting your health.

Tech Stress, a recent release from North Atlantic Books (Peper, Harvey, and Faass, 2020), offers easy, step-by-step instructions on setting up your computer and your work area to minimize fatigue and pain.

Fatigue

These questions are important for anyone who uses a computer more than two hours a day, and are useful in identifying possible causes, solutions, and referrals.

Ergonomics (feeling comfortable while you work)

- ___ How many hours a day do you spend sitting at the computer?
- ___ Have you had the opportunity to improve the ergonomics of your work area?
- ___ Is your chair adjustable, and do you know how to adjust it?
- ___ Are your desktop and keyboard at elbow level?
- ___ Do you use a laptop stand that places the screen at eye level? If you do, be sure to pair it with an external keyboard.
- ___ Have you had the opportunity to try a sit-stand desk, to observe the effect on your energy level? Good options include a dedicated sit-stand desk, a sit-stand riser on your desktop, or other types of furniture that provides the same function.

Sit-stand workstyle: If you are working at home, a credenza or dresser can be adapted to sit-stand usage. A large Ikea credenza, for example, makes a marvelous standing desk for a man or woman around 5'6"; the key is having the work surface at elbow height. You can also convert an existing desk or worktable to a sit-stand work area using a portable riser (typically ranging from \$100 to \$150). This is worth the effort. Many employees who incorporate a sit-stand workstyle find that their energy improves within a day or two.

Stretching, Breaks, and Circulation

Sitting is considered the new smoking. Immobility has been linked to increased risk of some cancers, type 2 diabetes, heart disease, immune dysfunction, back disorders, and shorter lifespan. What matters is the number of hours you spend at the computer *without moving*.

- ___ How long do you tend to work without taking a break? (Clock yourself!)
- ___ Can you alternate tasks while you work: for example, typing, then answering the phone (standing), or changing the paper in the printer (across the room).

___ Do you use a break app on your computer or your phone to remind you to take breaks?

- Microbreaks are brief stretches measured in seconds that you can take without ever getting up from your chair.
- Mini-breaks are stretches measured in minutes, and you'll want to take two or three of these an hour. You can begin by standing, taking a big stretch, reaching high over your head, and then rolling your shoulders.
- Large movement breaks mean getting up and walking around once an hour. Make an effort to get outside on your lunch hour if feasible.
- To track the benefit, rate your level of fatigue at the beginning and end of the week.

Your Sleep

A recent survey by the National Safety Council reported that 43% of Americans are not getting enough sleep and experience fatigue to such a degree it compromises their safety at work and on the road, as well as their ability to think clearly and be productive.

___ Do you remember to turn off all visual media an hour before bed?

The goal is to avoid the effects of blue light from the screen, which is interpreted by your brain as blue sky and daylight. This is true of light from not only your phone and your laptop, but also from the TV. The effects of blue light exposure lower your melatonin levels (making it more difficult to get sleepy), and raises cortisol (releasing blood sugar, energizing you just when you want to wind down and get to sleep).

In addition, if your mind is overly active, if your emotions are triggered by an incoming text or email, or if you're watching the nightly news or a thriller right before bed, that can further delay your ability to fall asleep.

Blue light from computers can also disturb your normal day-night rhythm. Consider getting testing which typically requires four saliva samples to track your cortisol curve. That allows you to determine whether your cortisol pattern is disturbing your wake-and-sleep cycle.

Neck Pain

___ How much time do you spend on your phone over the course of a day?

Your smart phone can be a major source of strain on your neck – as you bend forward to see the screen, the weight of your head places about 60 pounds of pressure on your neck vertebrae, in contrast to standing erect (Hansraj, 2014).

___ **Do you use your phone during your commute?**

To avoid the strain of craning over your phone, consider holding it at eye level using a phone case with a ring or a pop socket.

___ **Do you find yourself leaning in to read the screen, suggesting the need for computer glasses?**

If vision is an issue, you'll want to avoid bifocals and consider glasses made specifically for the focal length from your eyes to your computer screen.

___ **Do you use a tablet and if so, do you experience neck pain or headaches?**

Consider using a stand that puts the device at eye level, paired with an external keyboard. Affordable external keyboards weighing less than a pound are now available.

Referrals: If your neck pain persists, consider a biofeedback provider or a massage practitioner skilled in myofascial release or Rolting.

Back Pain

If you are experiencing frequent stiffness or pain, you'll want to give some thought to:

- ___ **The number of hours at the computer and/or on the phone**
- ___ **Your break schedule**
- ___ **The set-up of your workstation**
- ___ **The level of workplace stress**
- ___ **Whether you are getting enough exercise**
- ___ **Waistline weight that can cause inflammation and strain on the back**

It's important to take back pain seriously because, if ignored, these conditions can gradually worsen and become incapacitating. Short-term, there is the issue of the physical and emotional burden of pain. In the long-term, there are several other major considerations:

- Back injury affects one in every four adults. Direct treatment and lost wages total more than \$250 billion annually in the U.S. (boneandjointburden.org, 2020).
- Over-the-counter pain meds, which are often the first defense against pain, have been associated with increased risk of heart attack. An analysis in the *British Medical Journal* (2017) of the medical records of 446,763 individuals in Europe and Canada reported, "Taking any dose of NSAIDs for one week, one month, or more than a month was associated with an increased risk of myocardial infarction." Risk increased by 50% on average for ibuprophen, diclofenac, naproxen, and rofecoxib.
- Stronger medications such as opioids are an even bigger problem. According to the National Institute on Drug Abuse (NIDA) "2018 data shows that every day, 128 people in the United States die after overdosing on opioids." Prescription opioid misuse is also a public health issue in the U.S. with costs to society of more than \$78 billion a year, and incalculable human costs.

Referrals: Note that when pain is the result of a sedentary workstyle or ergonomics, the problem could take two or three weeks to resolve. If the pain continues after three weeks, seek treatment. For back pain, consider a chiropractor, an osteopath, an acupuncturist, or specialty massage.

Wrist or Shoulder Pain

A wrist condition such as carpal tunnel syndrome can have a number of causes:

- ___ **Is your keyboard slanted at too great an angle, bending your wrists back and increasing the risk of tendonitis?**
- ___ **Have you experienced abdominal weight gain or are you pregnant, which forces you to wing your arms out as you type, increasing the potential for ulnar nerve injury?**
- ___ **If you use a wide keyboard that requires a bit of stretch when you're mousing, do you experience shoulder pain?**

Resources and referrals: In each case, specialized equipment can resolve these issues with a minimum of effort and expense. In terms of treatment, you can find providers trained in biofeedback, with skills in assessing chronic muscle tension, referred pain, and related issues through the Biofeedback Certification International Alliance (BCIA) and the Association of Applied Psychophysiology and Biofeedback (AAPB) in the US, and the Biofeedback Federation of Europe (BFE) in Europe.

At Home or on the Road

If you work from home, know that home ergonomics are often even worse than those in the office. Yet the solutions are affordable and relatively easy.

Similarly, for those who travel a great deal and find themselves working in coffee shops, on planes, in hotel rooms, or at conferences, there are almost always smart options available to optimize your workspace.

Good Ergonomics. This is not about throwing money at a problem or expensive equipment. Sometimes it is simply a matter of adjusting the equipment you already have. In other cases, you can develop simple solutions, such as adding a pillow to your chair to raise you to the proper height or to provide back support.

Workarounds. For the home office, furniture can be modified (or purchased secondhand) to provide you with excellent ergonomics. For example, a good quality exercise ball can be used as whimsical seating (and greatly benefit your posture and circulation) for less than \$25. Office work doesn't have to hurt. By paying attention to ergonomics and workstyle, taking regular breaks, and building exercise into your day, often pain can be reduced or eliminated.

Peper, Harvey, and Faass. *Tech Stress: How Technology is Hijacking Our Lives, Strategies for Coping, and Pragmatic Ergonomics*. Berkeley, CA: North Atlantic Books, 2020.

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