

Office Worksite Ergonomics and Musculoskeletal Injuries

Steven T. Devor, Ph.D., FACSM

Exercise Physiology, Upper Arlington Preventative Primary Care

Musculoskeletal injuries in the office workplace, such as sprains, strains, and overuse, are all too common today and account for millions of dollars in lost on the job productivity, and time away from work. However, by simply implementing a few basic ergonomic solutions at the workspace we could dramatically reduce injuries, increase comfort, and heighten productive work time. Please see the associated figure for illustrated examples of proper desk ergonomics.

Common office workplace injuries include: carpal tunnel syndrome, bursitis, muscle strains to the neck, upper back, shoulders and lower back, and tendon injuries. All of these injuries can be significantly reduced by utilizing a few practical tips when setting up office workstations and desks.

Examples of office worksite set-up tips include:

- The computer monitor you use should be directly in front of you, not far off to one side of your sitting position. The height should be adjustable, with the top of the screen at approximately eye level.
- An angled sturdy footrest placed directly under your worksite can help to not only support your legs, but also simultaneously reduce low back strain. This small device is especially critical if your feet do not rest flat and comfortably on the floor. And even if your feet can comfortably sit flat on the floor, having an option to alter the position of your feet can offset lower back pain.
- Your desk chair should ideally have an adjustable seat height, back, and arm rests. It should also have a wheeled base for easy movement around your desk. Firm lumbar region support that is built into the chair for back support is helpful.

When you sit in your desk chair, your feet should rest flat on the floor, and your thighs should be parallel to the floor. The edge of the chair should be soft and should not touch the backs of your knees. If the chair has arm rests, they should be positioned at a such a height for use that does not require slouching, or having your shoulders hunched up or drooping down. If adjusted properly, the arm rests should support your arms and the entire shoulder region.

- Your desk or workstation should to be large enough to handle all of the electronics and office supplies you need to work effectively. Try to arrange your desk in such a manner that your most used things are within an easy reach and can be accessed without twisting or turning excessively over and over.
- If you have one, the computer keyboard placement tray should be height adjustable, ideally slide in and out under your desk, and have enough surface space to accommodate both your mouse and keyboard.
- A computer mouse can be found in many different forms, typically a standard mouse or a trackball. A trackball, or even the newer touchpads, may lessen the overuse symptoms that individuals can develop from a more traditional mouse. Placement should be directly adjacent to the keyboard in order to cut down on reaching or leaning.
- Finally, when you are typing or using the mouse, try positioning your forearms so they are slightly elevated, with your wrists in a neutral position so both your forearms and hands can move freely. If your desk chair has arm rests, try to adjust them so your forearms are parallel to the floor and your wrists are neutral; not bent too far up or down.