

It's a fact...

You should know how to prevent injuries while using your laptop.

The ideal “ergonomic” computer workstation includes an adjustable desk and chair with a separate computer screen, keyboard, and mouse. Adjustable furniture and separate computer components can be made to “fit” your needs, rather than you trying to adjust to the limitations of the workstation.

But the design of laptop computers defies these basic ergonomic guidelines. Laptop users set up shop on any available surface, often in cramped spaces—a classroom desk, a conference table, an airplane tray, a hotel bed, their own laps. Chairs are anything available to sit on from a folding chair to a lobby couch to a park bench. The computer screen, keyboard, and mouse are all-in-one units that create a single, fixed design with typically smaller features than in a standard computer set-up.

Despite the poor ergonomic design of laptop computers, there are some guidelines you can follow to avoid musculoskeletal discomfort and injury.

Ergo on the Go: Tips for Laptop Computer Use

- ◆ **Use an external keyboard and mouse—it is the single best thing you can do to make your laptop friendlier.**
- ◆ Position your keyboard so that your elbows are at a 90° angle and your wrists are not bent.
- ◆ Do not pound the keys on either an external keyboard or a laptop keyboard—especially with laptops, the touch is often lighter and the keyboard bed is shallow.
- ◆ Adjust the screen so that the top is even with your eye level (you may need to put your laptop on a computer pedestal or a phone book). A specially designed laptop holder which is portable and lightweight may also be used. There are many different designs available commercially.
- ◆ Make sure your screen is at least 18 inches away (ideally 24 to 30 inches between your eyes and the screen).



- ◆ Clean your screen frequently; dust on the screen can make it difficult to read and increase eye strain. Be sure to use an appropriate anti-static cleaning material that is safe for laptop computers.
- ◆ Use a document holder so that you don't have to constantly twist or bend your neck (there are several lightweight, compact document holders that you can take wherever you go). The most popular document holders for laptops are portable clip-on or side-mounting styles.
- ◆ If you can't find a good surface to work on, try your lap—
 - Sit with your knees and hips level to make a flat surface for your computer.
 - Angle the screen so that you can see it comfortably.
 - Use a chair that doesn't have armrests so that you have more room for your elbows.
 - Try using pillows to support your arms while typing.
 - Protect your lap from any possible burns from contact with the laptop—place a buffer of material between you and the computer.



- ◆ Position your laptop 90° from windows or bright light sources to reduce glare.
- ◆ Change your position occasionally; sitting in one position or leaning on your arms for an extended period of time can interfere with circulation.
- ◆ Take frequent short breaks to rest your eyes and stretch your muscles.

Finally, a laptop is often heavy so you should avoid carrying one with a handle. Use a bag with a padded shoulder strap, remove unnecessary accessories to lighten your load, and switch the laptop bag from shoulder to shoulder to relieve the weight. Better yet, newer laptops are small enough to fit in backpacks, which allows you to carry your laptop on your back and two shoulders, distributing the weight. And best of all—use a laptop bag with wheels or a wheeled luggage cart and roll your computer with you!



MORE INFO ON EFFECTIVE COMPUTER WORKSTATION DESIGN

Whenever possible, do your best to apply standard desktop computer guidelines to your laptop use. Refer to *Creating the Ideal Computer Workstation: A Step by Step Guide*, available at the working group's Web site, www.ergoworkinggroup.org.



This fact sheet is a product of the DoD Ergonomics Working Group. Written for both supervisors and workers, the fact sheet provides basic information on ergonomics. For more information, visit the working group's Web site at www.ergoworkinggroup.org.