

# The Ergonomics of a New Age Worker

by Dave Crabill

The work environment for many has evolved into sitting at a computer screen for hours on end. Common side effects of this include strain on the eyes, hands, wrists and back; as well as a pale complexion and limited face to face social skills. Well, I added that last part but we all know someone who fits that bill don't we?

So what steps can you take in your work environment to alleviate these pains? I met with Aaron Hamp of INC Systems in Swartz Creek to hear first hand from someone who spends long hours at the keyboard. Aaron and his team of six, support small to mid size business computer networks around the state of Michigan. His clients typically have between five and 100 computers for their business and count on INC Systems to keep them running smoothly. We came up with a list of do's and don'ts that will help us all get through those long projects more efficiently and with less strain on your system.

First up, let's talk about how to sit. As you sit at your computer your arms should rest with your forearms horizontal to the floor, feet flat on the floor and good support for your back. Your monitor should be adjusted with your eyes focused on the top of the screen. Ok, now that you're sitting comfortably, let's talk about movements. If you are able to minimize the amount of mouse work you need to do, that will reduce stress on the arm and hand and speed your work. Learn some shortcuts to eliminate the mouse work such as: Windows button and D pulls up your desktop, Windows button and E pulls up File Explorer, (CTRL) C copies, (CTRL) V pastes, (CTRL) X cuts



and copies, (ALT) (TAB) toggles through your open windows.

Hamp has the onset of carpal tunnel syndrome in his wrists and hands and uses an ergonomic keyboard that is sloped down towards the monitor. At that angle it keeps his forearms through his finger tips at a comfortable downward angle from his shoulders. As a Microsoft Partner, Hamp has been working with Windows 7 for that last year and enjoys the benefits of the new operating system.

"Windows 7 allows for more shortcuts and better healthier computing," said Hamp.

Besides being less intrusive than Vista with their UAC (user account control) that constantly protects you from yourself, Windows 7 simplifies and aids window management by letting you move and dock windows using the mouse, for example, dragging a window to the top edge will maximize it, or clicking on the right bottom corner will show the desktop. Now, you can do all this and many others using some equally useful keyboard shortcuts (hotkeys).

To avoid eye strain, take frequent breaks. Hamp even suggests setting a timer to remind you once an hour to take your eyes off the computer screen and focus as something in the distance. Also stand up and stretch to relieve the tension built up by sitting in one place. The computer screen can become hypnotic and a break from it will allow your mind to relax a minute with the benefit of the jigsaw puzzle effect. I just made that part up, but if you have worked on a jigsaw puzzle before, you know what I mean. You can be starting at those pieces and trying different spots for an eternity, and then if you just walk away for a bit and come back to it the pieces magically find their place.

The monitor can make a difference also. The LCD's commonly used today don't have the issues with refresh rate that to CRT displays have. If you are at a CRT monitor, make sure that the refresh rate is set as high as possible. You will notice less flicker with a higher refresh rate on a CRT. If you have ever

seen a video recording of a CRT display vs. a recording of a LCD display, the CRT will appear to be rolling due to the difference in the speed of the lines rolling up the screen in relation to the speed of the frames per second of the recording. LCD technology eliminates that issue because it does not have to "paint" the image. One thing to make even the LCD monitor work better for you would be to mount it on a swivel arm, so you can adjust the height and distance easily to match your work space. The brightness of the monitor also makes a difference on your eyes. Make sure to adjust the brightness to match your ambient light in the room. Too bright or too dark will make your eyes work harder. This is easy to accomplish with a Function button on a laptop, but will require checking with your monitor

information on a desktop computer to adjust.

Cleanliness makes for a happy computer as well. Desktop computers pull air in from the front case fan over the internal components and out the back. Any dirt and dust around the computer is distributed inside your computer over time. If you are comfortable with taking the case off your computer and putting it back on, then it would make sense to blow out the inside with a can of compressed air carefully a couple of times a year. The dust that builds up on the processor and heat sink for the power supply degrades the performance of your computer.

If working on a laptop computer, you can add a docking station that connects an external monitor, keyboard and mouse to the laptop/notebook. A docking station can be pur-

chased for about \$100 and you can use both your laptop monitor and external monitor at the same time, great for multitasking! When you sit on the couch with your laptop, use a pillow to raise it up, that will give you a better angle, plus keep your leg from getting too hot.

Overall, it makes sense to invest a little time, effort and money into making your work environment as safe, healthy and comfortable as possible. Everyone's situation is a little different, so find the right mix of technology and work habits that make you as comfortable and productive as possible.

To contact INC Systems, visit [www.inc-systems.com](http://www.inc-systems.com) or call the office at 810-496-0351. They offer no cost audits of computer networks with ten or more computers to plan for your current and future needs.



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