

Ergonomic Performance

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Ergonomics matches the task to the person. A good ergonomic work set-up will not only decrease absenteeism due to illness, but sustain employee motivation as well. It can also increase productivity by up to 20 percent, which means that an assignment can be completed in 4 days rather than 5. A poor ergonomic set-up can lead to health issues such as tendinitis, back pain, neck pain, eye strains, headaches and carpal tunnel syndrome.

Ergonomics at the office has become a much-discussed issue. However, very few of us know precisely the best postures to adopt in front of a computer, let alone the reasons for such positions. Although adequate office furniture does help, it is only part of the solution.

Microtraumas

Each time we move, we cause microtraumas. Just typing the words of this sentence has already lead a few tendon cells to tear in both my hands. This process is a naturally occurring phenomenon where tissues are damaged at a micro level through normal use and are dully replaced or repaired. Body-builders take advantage of this reality by allowing a few muscle fibers to tear during their workout so that these in turn may be substitute by new, stronger muscle fibers.

Problems start occurring when we do not allow enough time for the body to heal itself from each microtrauma. Body-builders know they need to rest between each set of exercises and workout sessions. Factors that will increase the negative effects of microtraumas are repetition, awkward postures and static positions, amongst others. A regular typist will make 100 strokes a minute. Multiply this rate by 60 minutes in an hour, 8 hours a day, and we approach 50 000 strokes per day. All active physical activity during typing is concentrated upon 10 fingers, with even more on the index finger if we use the mouse.

Awkward positions may increase the chances of health consequences. If the typist does not position her wrist in a neutral (straight) position, she may cause more friction between the tendons and the carpal tunnel in the wrist, thus causing the infamous carpal tunnel syndrome.

If the typist remains static, cramps may start developing in the back, neck and shoulders. To maintain a stationary position, muscles are in constant contraction. Thus, blood vessels and capillaries are also in constant constriction, slowing the circulation of fluids. If blood is not allowed to circulate easily, cells are not provided with oxygen or nutrients to function properly and wastes are not being disposed.

Solutions

We can minimize the effect of microtraumas by taking micro-breaks. It is better to take a short, 2-second pause by doing simple stretches every five minutes than to take a long hour break after 4 hours of work. Similar to mending our clothes, we need to repair each tear as it occurs, rather than waiting till they are bigger or there are too many holes. Our tendons too might be beyond repair if we wait too long, or be left with significant scars. Unlike clothes, we cannot purchase a new body.

Adopting a proper position is very important to prevent complications. It is important to respect the natural curves of our backs and adjusting our office furniture and working tools to our body dimensions.

Last but not least is muscle strength. Working on a computer does not require the athletic skills of a fireman. However, we still need the muscle stamina to sustain a proper posture and avoid falling into a hunched position. For this strength, the old adage of careful exercise and healthy nutrition is still relevant

Ergonomics works

In Asia, Capitaland Group, seeing the importance of a healthy workstation set-up, recently asked the Singapore General Hospital to do an ergonomic assessment for their employees. Verizon call centers in the United States also asked for an ergonomic assessment. Within the first 18 months they saw results with 1.75 million dollars less spent on Worker Compensation fees and 1700 less absent days (equivalent to adding 6 employees).

Making small changes in our office to respect our body does not need to be very expensive or require a lot of time, but the long-term advantage of doing so can be felt in your overall performance, mental and physical health.

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