



Three Ergonomic Risk Factors of Office Work

Office work may seem harmless enough, sitting all day at a desk using a computer. However all that prolonged sitting, typing on a keyboard and using a mouse for hours at a stretch every day can set the stage for musculoskeletal injuries. Symptoms of a musculoskeletal injury can include pain, joint stiffness, weak or aching muscles, redness and swelling, numbness and tingling, a burning sensation, and a general feeling of tiredness. The three factors that present the greatest risk for musculoskeletal injuries involve:

1. Fixed and constrained postures that are often awkward, uncomfortable and maintained for too long a time
2. Repetitious and forceful hand movements
3. A fast pace of work

PAINS AND STRAINS OF A FIXED BODY POSTURE

The human body was built to move - not be immobile for long periods of time. When you sit for a prolonged length of time, your muscles have to work hard to hold the upper body upright and still. This contributes to what is called a static load, the invisible but constant battle against gravity and fatigue, which can be damaging to the musculoskeletal system. Holding your head at the optimal distance from the screen and maintaining your arms in the proper position for keyboarding increase the static load on the whole upper body, particularly on the neck and shoulders. Incorrect posture reduces the blood supply, accelerates fatigue, and leaves you susceptible to repetitive motion injuries. Poor posture can be a result of:

- Non-adjustable or otherwise unsuitable workstations
- Inadequate layout of the workstation or a workstation that is not suitable for its user
- Lack of knowledge and experience on how to set up an adjustable workstation according to the worker's needs (considering both body build and job tasks)
- Poor working habits that remain uncorrected
- Unsuitable job design that requires a worker to sit uninterrupted for longer than an hour at a time
- Lack of proper training, resulting in a lack of awareness

WEAR AND TEAR OF REPITITIOUS AND MONOTONOUS MOVEMENTS

Holding the upper body still allows you to make the fine hand movements used when you type or use a mouse (categorized as dynamic load). When these movements are repeated

hundreds or thousands of times, hour after hour, day after day, year after year, they strain and gradually cause "wear and tear" on the muscles and tendons in the forearms, wrists and fingers. People who do repetitive work with their bodies in fixed and static positions are even more susceptible to getting repetitive motion injuries. Discomfort, numbness and tingling are the danger signs that, if ignored, signal that pain, chronic problems and long-term disability are on the way.

HIGH PRICE FOR RACE PACE OF WORK

Like repetitive and monotonous movements, a fast work pace is quite common in offices, and contributes to the development of musculoskeletal injuries. The pace of work determines how much time you have to rest your working muscles and recover between movements. The faster the pace, the shorter and less productive the recovery times become. This, in turn, increases the risk for repetitive motion injuries. You may be able to set your work pace and adapt to the stresses that go along with it. However the factors that are more harmful are the ones beyond your control that increase the work pace, such as:

- Having tight or frequently changing deadlines
- Knowing your performance is being monitored by some electronic system
- Being overloaded with work

The result is that you do not have any control over the timing and the speed of work, creating a feeling of always being in a hurry. This rushing and resulting stress causes your muscles to tense up which, in turn, can greatly increase your risk for developing repetitive motion injuries.

Resource Poster:

Tension Relief...It's a Stretch <http://www.ccohs.ca/products/posters/pdfs/stretching.pdf>

Source:

<http://www.ccohs.ca/newsletters/hsreport/issues/2011/11/ezone.html?id=28453&link=7#oshanwers>