**Health Care Factsheet - Computer Workstation Design**

**What Is The Hazard ?**

Recent advances in technology have allowed users to bring computers to the point of use in many applications and locations previously not considered a computer workstation. Computers on the factory floor, in warehouses and in hospital rooms are some examples of non-office computer workstations that have become quite common over the last several years. In many cases several people may operate the same equipment on the same or different work shifts as opposed to the desktop environment which may be fairly static once the equipment is set up for a particular operator.

**How Can It Harm Me ?**

Physical disorders associated with poor ergonomic design can result in:

* Eye strain and headaches
* Neck and back strain
* Fatigue, headache
* Wrist, hand, elbow and shoulder diseases including: Carpal Tunnel Syndrome, Tenosynovitis, Tendonitis and Synovitis
* Exacerbation of pre-existing lower back conditions (prolonged sitting) Sprains and Strains of muscles, nerves, ligaments and tendons in the hand, wrist, forearm, shoulders and neck

Some of the primary causes of eye, neck and back strain, which cause visual problems and wrist, hand, elbow and shoulder diseases are:

* Improper screen height and the inability to adjust the screen height to individual

preferences

* Improper viewing distance and the inability to adjust the screen
* Improper viewing angle and the difficulty of adjusting the viewing angle especially of larger monitors
* Improper keyboard vertical, fore and aft and tilt positioning

**What Engineering & Work Controls Can Be Used ?**

* The recommended screen height for computer monitors is that the top of the monitor screen should be set at or slightly below (approximately 1”-2”) the eye height of the user when the user is sitting or standing in a comfortable, relaxed position.
* Ideally an upward tilt with the bottom of the screen tilted toward the operator provides optimum viewing because it provides a consistent focal length when scanning from the top of the screen to the bottom.
* Normally the monitor screen should be placed as far away as possible from the operator, consistent with the ability to read the information presented on the screen.
* Keyboards should be placed at a height that allows the operator to operate the keyboard with the forearms level and hands sloping slightly downward.

**What Safe Work Practices Can I Use ?**

* Sit in the chair, relax, and position your shoulders, elbows and wrist in a neutral position
* Adjust the seat height so that your elbow height is approximately the same height as the keyboard
* Your hands should rest comfortably on the keyboard, mouse or work surface without reaching upward or hunching your shoulders
* Your feet should be resting comfortably on the ground
* The footrest should be positioned to enable you to sit close to the desk surface
* Sit to the back of the seat so that your back rests against it without slouching
* Adjust the backrest height so that the lumbar support in the lower part of the backrest supports the lumbar curve of your back.
* Armrests are not recommended for use with corner workstations.
* The computer screen should be placed directly in front of you and reference documents also be placed close to the screen
* Progressive lenses with viewing for short distance set in the middle of the lens, will enable a neutral head and neck position. Alternatively, lenses with one focal length for viewing the computer screen or ‘reading glasses’ also enable optimal head and neck position.
* Regular postural variation (e.g. changing between sitting, standing and walking for a few minutes every 30 minutes) is preferable to taking longer breaks less frequently (e.g. 10 minutes every hour).
* Regular variation between sitting, standing and walking is vital for back injury management and prevention.
* Gentle and regular moving of the head, neck, shoulders, arms, hands and upper trunk is also a key injury prevention and management strategy.

**This factsheet was compiled of excerpts from the following publicly available sources:**

United States Department Of Labor - Occupational Safety & Health Administration

United States Center For Disease Control & Prevention

United States National Institute for Occupational Health and Safety (NIOSH).