

Ph: (618) 9226 1239
Fax: (618) 9226 1259
Mob: 0418 928 326
Email: ianwee@pihc.com.au
Web: www.pihc.com.au
www.ianwee.com.au



Research Into Computers and The Effects on the Human Body The Computer Age: Are We Ready?

Introduction:

This article is the result of ongoing research conducted by Ian Wee, Occupational Therapist together with the Australian Computing Society (ACS) in a research entitled "Pilot Study On The Effects Of Computing On Spinal Muscular Systems Of Computer Professionals.

Much of the data obtained has also been the result of health programs conducted for corporate groups in Perth, which include a Information Technology company, a Petroleum company and a Mining company.

The use of the mouse as a device of the computer has become very important since the introduction of graphical interfaces such as Windows 95. Given the growing number of users of the internet and leisure computing services, the number of users of the mouse as a computer device will only increase in the near future.

In era of the RSI and OOS incidences, the usage of keystrokes on computers and main frames were the reasons given for the upsurge in related spinal muscular problems.

In the late 90s, as we are now in, we are once again challenged by the usage of the mouse, and in particular our habits of work. The incidence of muscular and spinal related problems related to insidious, micro-traumatic work, which is repetitive and cumulative, has been coined CTS or Cumulative Trauma Syndrome.

This research explored the incidence rate of such problems in its pilot study and related health care programs in the workplace.

Results Of The Pilot Study & Program

All respondents of the pilot study, were found to manifest one or more of the following clinical presentation: mid back pain, headaches, upper back pain, restricted movement in the shoulder and upper back, low back pain and referred pain.

Research Findings

From the questionnaire administered and the subsequent consultations, the following trends were obtained:

INCORPORATING:
*
OCCUPATIONAL
THERAPY
*
CHIROPRACTIC
*
PODIATRY
*
NATUROPATHY
*
HEALTH SERVICES

Ph: (618) 9226 1239
Fax: (618) 9226 1259
Mob: 0418 928 326
Email: ianwee@pihc.com.au
Web: www.pihc.com.au
www.ianwee.com.au

INCORPORATING:
*
OCCUPATIONAL
THERAPY
*
CHIROPRACTIC
*
PODIATRY
*
NATUROPATHY
*
HEALTH SERVICES

Perth Integrated Health Clinic

41 Havelock Street • West Perth • WA 6005



- a. Lack of knowledge about adapting the body to the work environment and vice versa ie proper ergonomics;
- b. Overworking
- c. Poor Posture
- d. Excessive Mouse Usage

Lack of Knowledge About Ergonomics

The research found that many assumed that they had a problem and that little could be done within their work environment or control to resolve it.

Those that were supposedly previously taught ergonomics or occupational health guidelines appear to be knowledgeable about the rules and regulations but had little or no knowledge about how their spinal muscular system related to the environment.

Overworking

The changes in the workplace and lack of job security on the past few years has required workers to work long hours, often to secure diminishing positions and with unrealistic datelines.

Many professionals working in the computing sector or with computers are consultants or contractors. These people, in the real sense of the word, work for themselves in a group or company environment where their income is directly proportional to the amount of time spent at work.

Many contractors work more than the required hours per week and a maximum ceiling of time is uncommon in the IT industry, Mining and Petroleum industry.

Most of these respondents did not take pre-required breaks and pauses during high levels of concentration, use of the mouse & keystrokes. This can easily cause muscular systems to contract, especially if the ergonomics is unsuitable and hence contribute to CTS.

Poor Posture

Respondents indicated that their spinal muscular problems were related to their posture, which was mostly in a forward trunk flexed position, which automatically causes excessive lumbar strain and in the long term, can contribute to spinal degeneration.

“On the edge” posture was also common where the person is seated at the edge of the chair, with the gluteals receiving minimal support. The entire weight of the person is poised on the bony prominences of the sacrum (ischial tuberosities) which is also a ergonomic hazard.

ABN: 73 069 383 900
ABN: 069 383 900

Ph: (618) 9226 1239
Fax: (618) 9226 1259
Mob: 0418 928 326
Email: ianwee@pihc.com.au
Web: www.pihc.com.au
www.ianwee.com.au

INCORPORATING:

•
OCCUPATIONAL
THERAPY

•
CHIROPRACTIC

•
PODIATRY

•
NATUROPATHY

•
HEALTH SERVICES

Perth
Integrated
Health Clinic

41 Havelock Street • West Perth • WA 6005



Poor postures seen in a few workstations have been due to constraints of space and lack of equipment in the workplace.

Excessive Mouse Usage

The advent of the graphics application packages such as Windows 95 has heralded the increase usage of the mouse as a device on the computer workstation. Whilst the Apple platform has predominantly been mouse based, it has not made such an impact until Windows 95.

Unfortunately the current situation exists where there is no practical device or accommodations made for the mouse in office furniture design.

Ian Wee
Occupational Therapist

Research conducted: 1996.

Email: ianwee@pihc.com.au

Refer to the top left hand corner of this document for other contact details.

ABN: 73 069 383 900

ABN: 069 383 900

health