

SCREEN BASED EQUIPMENT

Health and Safety Factors

RECENT PRESS coverage of reports from Britain, Denmark and North America which claim that the use of visual display units (VDUs) may be linked to high incidences of miscarriage, stillbirth or birth malformation have caused alarm amongst some library staff.

As VDUs and other forms of screen based equipment (eg microfiche readers) are commonplace in Australian libraries, it is important to examine some of the issues related to their safety.

The major health and safety hazards which have been linked with the use of screen based equipment are:

- Visual problems
- Repetition strain injuries
- Backache/muscle fatigue
- Stress
- Radiation hazards
- Skin rashes

However, much of the evidence relating to these issues is contradictory or inconclusive.

While it is impossible, in most instances, to prove that a particular health problem has been caused by the use of screen based equipment, some basic precautions can be taken to minimise health risks.

Visual problems: including burning or itching eyes, blurred vision, headaches, fatigue and nausea have all been reported by persons using screen based equipment.

In some cases these may be caused by uncorrected visual defects or by glasses which are unsuitable for work with screen based equipment. Any person using screen based equipment for long periods during the course of their employment is advised to have an eye examination prior to starting work with the equipment and at regular intervals thereafter. Some libraries (eg State Library of NSW) already carry out routine eye tests for staff.

Visual problems can also be caused by glare or reflections on the screen of VDUs. These can be minimised by installing machines away from strong sources of light, adjusting the lighting in the room, fitting good quality anti-glare filters to machines, using curtains or blinds to screen windows, ensuring that desk tops and surrounding furniture have matt finishes and that screens are fitted with brightness controls.

Other factors which may contribute to visual problems include the size of the screen,

viewing distance, dot matrix, screen contrast, character refresher rate. Machines with large screens and characters are preferable and keyboards should be adjustable to provide optimum viewing distance. The dot matrix should provide a sharp image on the screen, the screen itself should provide sufficient contrast between the image and the background and the character refresher rate should be fast enough to eliminate flickering.

Rest breaks are also important in relieving eyestrain. A 15-minute break after each hour of use is recommended.

Repetition strain injury: There are several forms of repetition strain injury, which is caused by rapid and repetitive movements used in keying in information to VDUs. Perhaps the most well-known type of R.S.I. is tenosynovitis. Repetition strain injuries are characterised by pain and tenderness in the wrist, elbow, or muscles in the neck, shoulder, upper arm or forearm. In more acute stages they can produce permanent disability. Ensuring that the keystroke rate is kept to a sensible level will do much to reduce the risk of repetition strain injuries. Opinions vary as to the optimum keystroke rate, however, 10,000/hour is frequently suggested.

Ergonomic factors in the workplace should also be examined (see below) and frequent rest breaks provided.

Backache and muscle strain: Can be caused by poor posture or badly designed office furniture. Screens should be adjustable for height and screen angle and controls should be easily reachable from a sitting position. Chairs should be adjustable in height and the back support should also be adjustable. Footrests may be required by smaller operators and document holders can reduce awkward twisting and bending.

Radiation hazards: Some studies have linked the use of VDUs with the formation of cataracts and with birth defects and miscarriages. Between 1979 and 1983 there were 7 reported 'clusters' of miscarriages and deformities in children born to women who had been working with VDUs in Australia, the United States and Canada. There is speculation that these problems have been caused by electromagnetic radiation being emitted from the machines but as yet there is no conclusive evidence available to support this theory. In-

deed, a report presented to the United States Government by the America's College of Obstetricians and Gynaecologists early this year concluded that the systematic use of VDUs presented no danger to the human reproductive system.

Frequent breaks away from machines, periodic testing of them for radiation leaks and regular maintenance of VDUs should substantially reduce any possible risk of radiation emission.

Stress: May manifest itself as anxiety, depression, irritability or insecurity. It may be caused by performance monitoring, pacing with the machine, isolation, boring work, noise, excessive heat emanating from the machine or shift work and usually occurs after prolonged use of VDUs.

It can be alleviated by frequent rest, breaks, job rotation, efficient air conditioning, ventilation and the separation of noisy printers from word processors.

Skin rashes: Amongst VDU operators are a less common phenomenon. It has been suggested that they could be caused by a build up of static around some VDU screens. This may be reduced by using anti-static floor coverings.

Avenues of Assistance:

- Most white collar unions have developed a health and safety policy for the use of screen based equipment which is available to union members.
- Some unions have employed health and safety officers to look after the interests of their members.
- NSW has passed legislation establishing workplace health and safety committees to monitor conditions in workplaces which employ more than 20 people and other states are currently in the process of formulating similar legislation.

Provided that care is taken to ensure that screen based equipment is installed and maintained properly and that adequate rest breaks are provided for those using it, it should not be a cause for concern. However, should you have any questions regarding the safety of screen based equipment in your library or about any other health or safety matter you should contact your union representative or workplace health and safety committee for advice.

Louise Lansley

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UN WORLD DISARMAMENT WEEK . . . a topic for Library Display

October 24 is United Nations Day and the week following, Oct 24-31, has been declared UN World Disarmament Week.

Nuclear weapons proliferation and moves towards world peace and disarmament are matters attracting widespread social debate. Librarians should be fully aware of the many resources available on these crucial issues . . . here is an opportunity to promote literature on the subject as part of a world wide campaign during this particular week.

Teresa Jordan