Visual Display Unit and Vision

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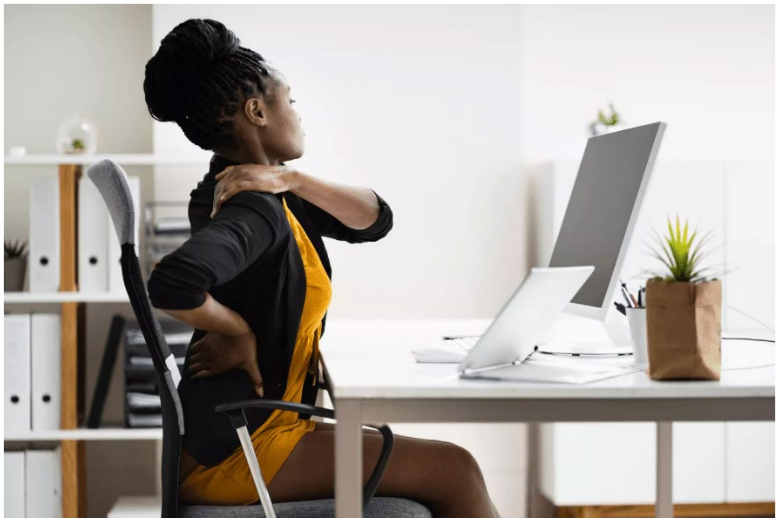
One of the most significant changes to modern office procedures have been the introduction of the visual display unit (VDU), a change that has brought important benefits to business and industry. As with many success stories, there have been some unexpected problems. Eyestrain and vision problems are among the most frequent complaints.

Visual demands on VDU operators

VDU work involves concentration on a task usually 50 cm or less away. To see clearly at these distances requires an unconscious effort. Several muscles are needed when the eyes adjust to focus on a near point. One muscle inside the eye changes the shape of the eye's lens so that the eye is focused sharply and clearly on the VDU screen. Other muscles turn the eyes inward, directing them to the same point on the screen and moving the eyes quickly from one place to another.

Common complaints of VDU operators

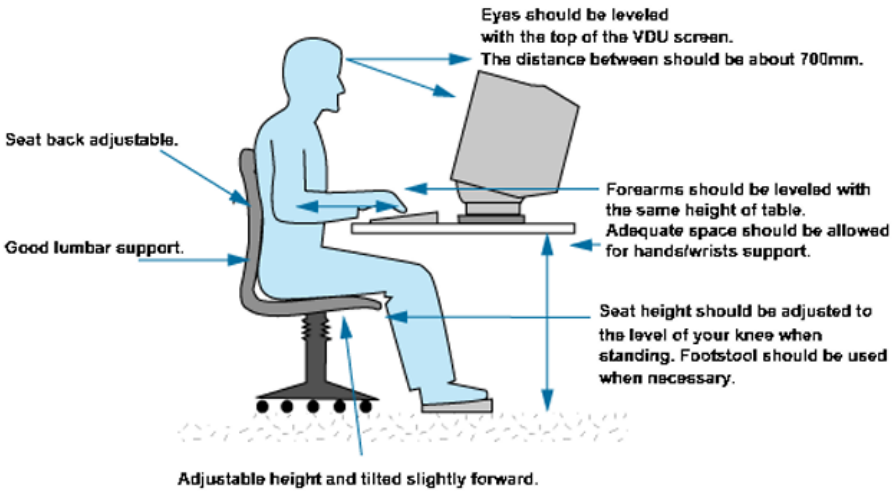
The most common complaints made by VDU operators are headaches, blurred vision for either near or far viewing distances, itching or burning eyes, eye fatigue, flickering sensations. Double vision, slow refocusing and frequently losing the place when moving eyes from printed material to the screen, and difficulty seeing distant objects clearly after prolonged VDU use. These complaints are symptoms of what is commonly called eye strain.



Furniture, posture and position

The use of appropriate furniture and proper positioning of hard copy can help prevent VDU operator discomfort and reduce the frequency of work-related problems experienced VDU operators.

- Adjustable chairs allow the user to set the chair for the most comfortable height and back support.
- The top of the VDU screen usually should be 10 degrees (and the centre of the screen 20 degrees) below the user's straight-ahead seeing position. The appropriate distance from the viewer's eyes to the screen should be approximately 35 to 50 cm.
- Reference material should be placed as close as possible to the VDU screen. This avoids large head and eye movements, which are tiring.
- Where possible, reference material and the VDU should be placed the same distance away from the eyes. This reduces the need for frequent changes of focus that can contribute to visual discomfort caused by unconscious effort.



Tips on lighting and glare control for VDUs

Lighting needs vary with individuals, with the nature of the task at hand and with the layout of the of the office, but it is usually desirable for the VDU screen brightness to be three to four times greater than ambient office lighting. Whenever possible, a lower level of general room lighting should be maintained where VDUs are used.

- It is not possible to specify the light level that should be used, due to the variety of activities that can be carried out in the office at one time.
- There should be a high degree of contrast between the characters on the screen and the background.
- Reflected glare on VDU screens should be minimised by positioning screens so that windows and other sources of bright light are not behind the operator. Operators should not sit facing an un shaded window or other source of bright light. Curtains, blinds and other means of shading should be used to reduce glare. A small hood can be attached the screen to shield it from excessive overhead light.
- Special monitor shields or filters are available that can be fastened to the front of the screen to eliminate troublesome glare and reflection.

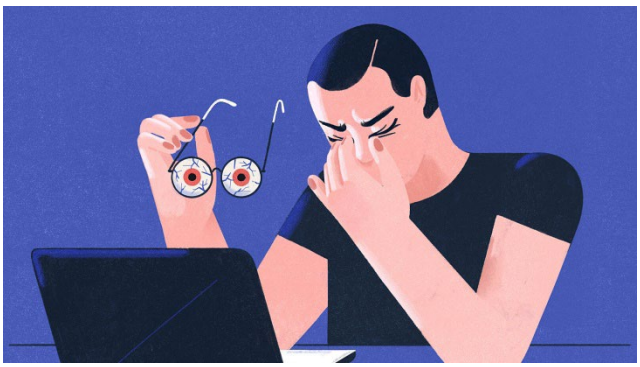
- Localised lighting sources such as flexible lamps can be used for other deskwork. These should be shielded to avoid glare on the work surface or VDU screen and to prevent sharp contrasts.
- Avoid white or coloured clothing if it causes a reflection on the screen.

Poor vision and VDU use are a bad combination

Vision problems that usually are not noticed often trouble VDU operators. This is because VDU work imposes greater visual demands than traditional office work. It is likely that previously unnoticed vision disorders are one of the most common reasons for vision-related complaints by VDU operators. Optometrists Association Australia recommends that staff members have their eyes examined thoroughly before they begin work with screenbased equipment and then on a regular basis. The examining optometrist should be advised that the person is, or will be, a VDU operator, and told of any specific visual problems that the person has experienced. The distance and angle of the VDU screen at which the operator is working should be described. Proper optometric care can solve most vision problems.

Taking rest breaks can reduce fatigue

Rest breaks are important because VDU operation often requires intense concentration. Work with screen-based equipment should be interspersed with other tasks. Rest breaks may need to be scheduled into a work routine if operators do not take sufficient time away from the screen of their own accord. Glancing away from the screen for a second or two every few minutes will make work with VDUs more comfortable.



Vision problems that may affect VDU work

Longsighted people see distant objects more clearly than they see close objects. A mildly longsighted person who is generally able to perform normal seeing tasks such as driving or reading without prescription spectacles may require them to overcome blurred vision or visual discomfort when working at a VDU.

Presbyopia is a vision condition that is part of the natural ageing process and usually is first noticed in the mid 40s. Presbyopia reduces a person's ability to focus clearly on close work.

Reading glasses for use while operating a VDU may be required. If bifocal, trifocal or progressive glasses are to be prescribed, information such as the measurement of the distance from the operator's eyes to the screen must be given to the optometrist.

Astigmatism is a common vision disorder that blurs vision at all distances and may cause discomfort to the VDU operator. It is caused by the front surface of the eye being oval and not round. Prescription lenses that are worn only when using a VDU can help operators with mild astigmatism but people with greater astigmatism may need to wear glasses all the time.

Many other conditions can make the VDU screen appears blurred, increase susceptibility to glare, or otherwise make VDU use difficult. They include poor eye co-ordination, shortsightedness and eye focusing problems. Your optometrist can diagnose these conditions and advise you on treatment suitable for VDU operation.