

The following information may be helpful to people asking about the use of computers by anyone who has epilepsy.

Photo-sensitive epilepsy.

People with the specific condition called 'photo-sensitive epilepsy' may find that moving or flickering light can cause problems, and this can include computer screens (or monitors). The frequency of flashing light which is most likely to provoke a seizure varies from person to person but is generally in the range of 5 to 30 flashes per second. However, only 3-5% of people with epilepsy are in fact photo-sensitive. For many others, the problems they experience while using a computer are not due to the movement, or "flicker", of the screen image but rather to other causes such as eye strain and general stress.

You may wish to seek medical advice to determine whether or not your epilepsy is photo sensitive.

Flicker-free screens

If the computer screen uses cathode ray tube technology (CRT, it's the same technology as a television) then the image on these screens is continually "refreshed" or re-painted and this means that the image can move or flicker. The more often the screen is refreshed the more stable the image is and the less it flickers. The refresh rate is expressed in "Hertz" (usually written Hz): the higher the Hz number, the less the flicker.

In most cases users are not conscious of this flicker and it causes no problems. Previously screens had low refresh rates, flickered almost visibly, and did cause problems. Now most do not. It is generally accepted that a refresh rate of 100Hz or above will *not* cause problems with photo-sensitivity.

Lighting

Another problem may be caused by lighting. Modern office lighting is generally achieved using fluorescent tubes which also flicker to some degree. Slightly flickering screens and flickering lights may in some cases combine to flash at the rate which could trigger a seizure. Try to opt for natural lighting (being careful to avoid glare on sunny days) or "old fashioned" incandescent light bulbs. Note: energy saving bulbs are in fact small folded up fluorescent tubes. Due to the technology employed, these type of bulbs are particularly prone to flickering.

Flat screens

The sorts of monitors used on laptop computers ('LCD' or 'TFT' technology) are not refreshed and do not flicker at all under normal operating circumstances. You can buy separate LCD or TFT monitors (also known as flat screens or flat panels) to attach to any computer from your local PC supplier.

General advice on reducing tension, eye strain and epilepsy related problems with computer use.

1. Sit as far back as you comfortably can.
2. Learn to relax your neck and shoulders.
3. Frequently re-focus your eyes on a distant object (preferably out of a window).
4. Move about often - get up and move the whole body - whether you feel the need to or not.
5. Your computer screen can be adjusted - keep the contrast and brightness no more vivid than is necessary for comfortable vision.
6. Choose your background and text colours and font style and size. What you like best and feel most comfortable with will almost certainly *be* best for you. (We can help you learn how to do this if required).

Useful Organisations

Epilepsy Action

Epilepsy Action is the working name of British Epilepsy Association and provides information and advice on epilepsy.

Epilepsy Action, New Anstey House, Gate Way Drive, Yeadon, Leeds
LS19 7XY

Tel: 0808 800 5050

Web: www.epilepsy.org.uk

The National Society for Epilepsy

Provides information, support and medical and residential care for people with epilepsy.

The National Society for Epilepsy, Chesham Lane, Chalfont St. Peter,
Buckinghamshire SL9 0RJ

Tel: 01494 601400

Web: www.epilepsynse.org.uk

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