Computers and Epilepsy

Using a computer if you have epilepsy may present some unique issues.

This factsheet gives you some tips on using a computer safely.

1   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. For more information about this type of epilepsy please see the information here:
https://www.epilepsy.org.uk/info/photosensitive-epilepsy

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

2   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.

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.

3   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.

4 Your workstation

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).

5 Useful Organisations

5.1 Epilepsy Action

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

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

• Tel: Freephone 0808 800 5050

    o General   0113 210 8800

• Web: www.epilepsy.org.uk

5.2 The National Society for Epilepsy

Provides information, and support 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

6   How can AbilityNet help you?

AbilityNet is a leading authority on accessibility and assistive technologies. We can assist individuals, charities and employers by providing:

- advice and information
- workplace assessments
- consultancy services.

My Computer My Way

My Computer My Way is a free, interactive tool developed by AbilityNet that makes any computer, tablet and smartphone easier to use.

It can help you ensure that your equipment is set up the best way possible to suit your particular needs. It covers all the accessibility features built into your computer, laptop, tablet or smartphone, and all the main operating systems – Windows, Mac OS X, iOS and Android.

My Computer My Way shows you how to adjust your computer to assist with:

- vision impairment – help seeing your screen
- hearing difficulties – help with sounds and audio
- motor issues – help with your keyboard and mouse
- cognitive problems – help with reading, spelling and understanding.

You can use it for free at www.mycomputermyway.com

AbilityNet factsheets

AbilityNet's factsheets provide an extensive range of practical advice about specific conditions and the hardware and software adaptations that can help people of any age use computers to fulfil their potential.

Relevant topics covered include:

- Controlling the compuiter with your voice
- Vision impairment and computing
- Workstation ergonomics
- Repetitive strain injury (RSI) in the workplace.

All these resources are free to download from www.abilitynet.org.uk/factsheets

Workplace Assessment Service

When it comes to computing solutions, one size does not fit all. We believe that each case is unique and that individual attention is vital. Our Workplace Assessment Service integrates personal, technical and organisational considerations to arrive at sound and realistic suggestions, documented in a report.

To find out more about AbilityNet's Workplace Assessment Service, please visit www.abilitynet.org.uk/workplace or call 01926 465 247.

Consultancy services

Our expert consultants are also available to assist employers who wish to take a broad, longer-term view in designing computer systems and associated work processes. Our experience and expertise can help you to achieve safe, healthy and productive working procedures.

To find out more about AbilityNet's consultancy services, call 01962 465 247 or email sales@abilitynet.org.uk

DSA / Student assessments

If you have a disability and are in higher or further education, you may qualify for a Disabled Students Allowance (DSA). If you are eligible you will receive a free assessment and may qualify for a grant towards any adjustments that you might require. This could help with the costs of buying a new computer or any other specialist equipment you might need.

For information, please visit www.abilitynet.org.uk/dsa or call 01926 464 095.

7   About AbilityNet

AbilityNet is the national charity that supports people with any disability, of any age. Our specialist services help disabled people to use computers and the internet to improve their lives, whether at work, at home or in education. We offer:

- free advice and information
- accessibility services
- DSA/student assessments
- workplace assessments
- IT help at home
- IT volunteers.

Support us

Visit www.abilitynet.org.uk/donate to learn how you can support our work.

Contact us

- Telephone   0800 269 545
- Email   enquiries@abilitynet.org.uk
- Web: www.abilitynet.org.uk

We are always keen to help share knowledge about accessibility and assistive technology. If you have any questions about how you may use the contents of this factsheet, please contact us at AbilityNet and we will do all we can to help.

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