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- Retinal Vein Occlusion
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Information from
The Macular Disease Society

Low Vision Aids

What is Low Vision?

If you have a reduced level of vision that cannot be improved with the use of spectacles, contact lenses or by surgical intervention, then you have low vision.

You do not have to be registered blind/ severely sight impaired or partially sighted/ sight impaired to be considered to have low vision.

Low vision is also about making the most of the vision you have. This leaflet provides information about low vision aids and techniques that might help you to make the most of the vision you have.

By making good use of your peripheral vision, lighting, and all the aids and assistance available, it is possible for you to retain a good quality of life and to adapt to life with Macular Degeneration.

It is possible to continue with most activities. Many tasks will take longer but, by learning some new tricks and habits, many thousands of people with MD are managing their lives very well.

Low Vision Aids

Low Vision Aids (LVAs) are any items that help you make the best of your vision. These include magnifiers (which are optical low vision aids, i.e. they incorporate lenses) and also products which use colour or contrast to make them easier to see and use, or are bigger than standard, such as large print products.

Even items such as reading stands, anti-glare spectacles or task lights, which help you to function more effectively and comfortably while doing visual tasks can be considered to be low vision aids.

Magnification

The “magnifying power” of a magnifier is usually denoted with an “x” to mean “times”. For example “x5” means it appears to make an object 5 times larger (but only when used in a specific way).

The “magnifying power” (x) is calculated from the power of the lens, which is measured in Dioptres (D). There are two ways of calculating the “magnifying power”, and manufacturers can use either method to label their products. Therefore two magnifiers can be labelled as say “x3” but produce different sized images of the same object, when used at the same distance. The best way to compare two magnifiers marked with the same

power is to look through them at the same distance from the object and from the eye, and see which makes the object appear bigger.

The so-called sheet magnifiers (Fresnel lenses) are unlikely to be of much use to anybody with MD as they are of an extremely low power and produce a very distorted image. (These include screens which purport to magnify a television or a computer screen.)

Magnifiers – Optical Low Vision Aids

Using magnifiers will not damage your eyes in any way, although you will get tired if using them for any length of time. Little and often is the best approach.

You will be able to read for longer if you rest your eyes by looking away from the text every few minutes and blinking a few times. Magnifiers can be used for near and distant objects and with practice it does get easier. Learning to use magnifiers is easier when the powers required are relatively low, so request referral to a low vision service as soon as you experience difficulty with tasks like reading that cannot be rectified with the use of ordinary spectacles and/or good lighting.

Later in this leaflet are some hints and tips to help you use magnifiers more effectively.

Optical devices provide assistance through the use of some form of optical lens(es); either a single lens system, such as a hand-held magnifier, or alternatively a multiple lens system, such as a telescopic monocular.

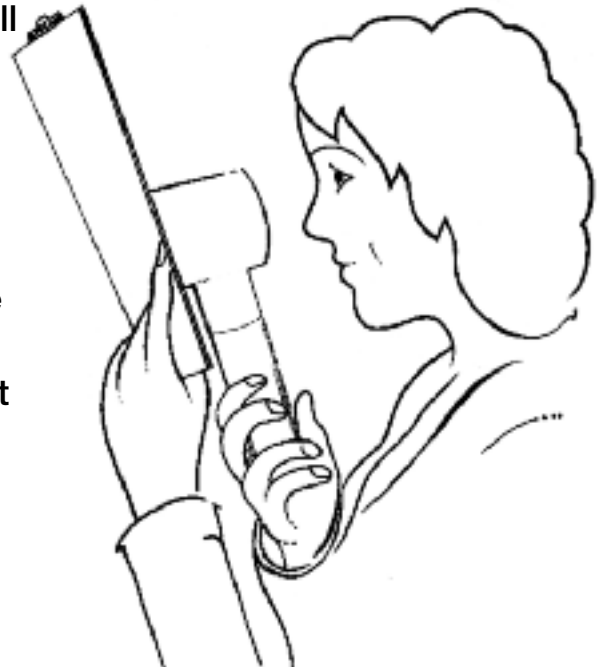
Optical magnifiers are used to increase the image size of an object to make them easier to see.

The stronger a magnifier is the smaller the lens will be – it is not possible to manufacture a large aperture lens of a high magnifying power.

Also, the stronger a magnifier is, the shorter the working distance will be, i.e. it will have to be used much closer to the eye.

Generally speaking, you will need several magnifiers to do different things. The type of magnifier you need for specific tasks will depend on the level of detail you need to see, the lighting conditions you are working in, and how long it will take to complete a particular task. You also need to take into consideration the weight and portability of the magnifier as well as your ability to hold and keep a lens steady.

You might have a larger lower powered hand-held lens for reading larger print items or looking at photographs, a high powered lens for looking briefly at very small print, and a pocket version of one of these that is small enough to take out and about with you. A small telescope for seeing bus numbers and street signs could be useful.



Magnifiers are tools. They will never make it as easy to read as it was before the onset of macular disease, but they can help.

Ideally, you should have a low vision assessment to help you select the most suitable magnifiers for your needs and to train you in the methods to use them successfully. There are many different powers and sizes of magnifiers to meet different needs and individual preferences.

Magnifiers are very personal and two people with similar levels of vision will have very different requirements of a magnifier.

All magnifiers have certain distortions and aberrations that are minimised where possible but can never be completely eliminated. Individuals will find that one model of magnifier will have reflections and distortions that, for them, make it totally unusable, but will find another make and model with almost identical specifications that works well for them.

Basic Types of Optical Magnifiers

Some of these need little description. Others are outlined more fully below.

Hand-held magnifiers

The lens is held away from the object, and the design incorporates a handle.

Hand-held magnifier

Stand Magnifiers

Stand magnifiers are designed to rest flat on the page, lens uppermost. This maintains the correct distance between the lens and the text. Stand magnifiers might be helpful if your hands are a little shaky. Stand magnifiers are made in different shapes and sizes and are available in strengths from x2 to x20. A few low powered stand magnifiers have a deep enough stand to allow you to get a pen underneath for writing.

Stand magnifier

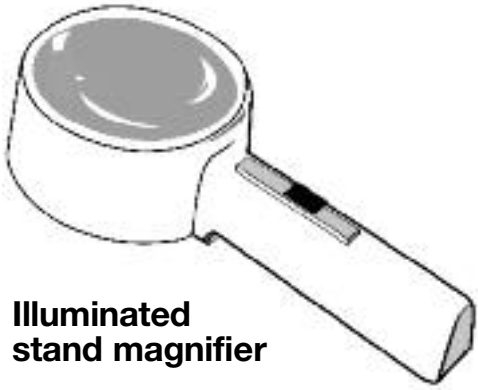
When using a stand magnifier, to help keep the text and magnifier steady, use a clipboard or reading stand. You then slide the magnifier across the page in order to read across a line of text.

If you find that the image is clearer when you lift the stand magnifier away from the page, you may be wearing the wrong spectacles or you may need a stronger stand magnifier.

It is also possible to get a folding hand/stand magnifier. This has an inbuilt stand that can be folded away or manoeuvred into a different set-up to give you the flexibility of two or more designs in one, for use with a wider range of tasks.

Illuminated Stand Magnifiers

Some stand magnifiers have inbuilt illumination. They can be plugged into an electrical socket or fitted with batteries. With the lens uppermost, the light needs to shine onto the object you are looking at, not into your eyes.



Illuminated stand magnifier

Many models have LED (light emitting diode) illumination. They give a brighter, whiter light and are more energy efficient than filament bulb versions, so batteries last far longer. Also, you do not need to keep replacing the bulbs as with the more traditional filament bulb.

If the bulb does fail on an LED unit, the whole unit will need to be replaced. If this happens, contact your low vision service or supplier for a replacement.

If you have an illuminated stand magnifier supplied by a low vision service, they should have shown you how to use the unit and also how to maintain it. If not the Macular Disease Society has prepared a sheet with advice on the use and orientation of some of the popular models (as provided by the majority of low vision services) listed by manufacturer not supplier. This is available on our website www.maculardisease.org or ring the Helpline on 0845 241 2041 and ask for a copy to be sent to you.

Tips for using hand or stand magnifiers

When using a hand-held or stand magnifier keep any necessary movement slow and even to minimise blurring.

Unless the magnifier is of a low power you will only be able to use a magnifier with one eye. Where possible use the eye that has the best vision.

The way to increase how much you see at a time (field of view) is to bring the magnifier lens very close to the eye then bring the object or text that you are looking at closer to the lens until it is in focus. A clipboard may be useful to keep the text flat and steady.

If the image appears upside down when you look through a magnifier, the distance between the object/text and the magnifier is too great – bring the object closer to the lens.

The centre of the lens gives the clearest, least distorted image. Do not read across the lens as the image will distort towards the edges and you may become aware of coloured fringes (aberrations). The best technique when using a magnifier is to get the first word as clear as possible. Once you have located your best viewing position, keep your head, eyes and the magnifier still, and move the object you are looking at. This is known as Steady Eye Strategy and takes some practice to master, but it helps keep everything in focus and you will lose your place less frequently.

Pocket Magnifiers
These are small enough to take out and about and are useful for shopping. The strength of pocket magnifiers varies from x2 to x15. Some pocket magnifiers are fitted with lights, whilst others are designed to fold up into a protective case that also acts as a handle.

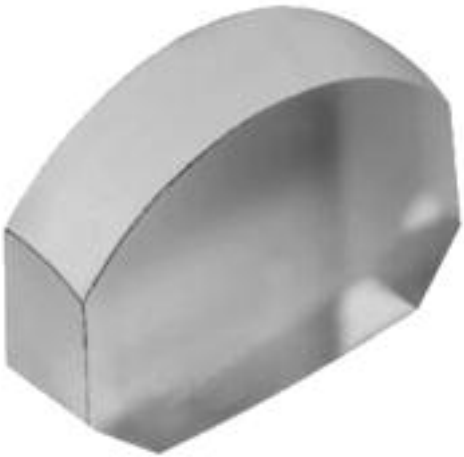
Pocket magnifier

Brightfield / Flat-form Magnifiers
These are bar or dome magnifiers that look a bit like a paperweight or a shaped ruler. (Some manufacturers have produced models which are a slice through a dome to reduce weight and to give an angled field of view.) These magnifiers have light gathering properties focusing the available light on to the page. They are used rather like a stand magnifier, in other words it is placed flat on the page and you then slide the magnifier across the page in order to read across a line of text. A clipboard or a reading stand can be used to keep the text and lens firm and steady. They are available in magnifying powers up to x3 although it is possible to combine them with other magnifiers. For example, a hand magnifier can be used to look at the enlarged image seen through the flat-field magnifier.

A bar magnifier version only magnifies in one direction, so letters are

Bar magnifier

Angled dome magnifier



Dome magnifier

taller but the width of the text is unchanged. This enables several words to be seen at one time. Some models have a painted guideline or typoscope to help you keep your place by placing the line under the line you wish to read. A typoscope blocks out the information on either side of the gap to aid concentration. See page 22 (typoscopes) to see how this principle can be used with other things.

Round-the-neck Magnifiers

These large-lens low-powered magnifiers are useful for some hobbies like knitting or model making, where you need to have your hands free. They hang from an adjustable cord and the protruding part of the frame is designed to rest on your chest in order to angle the lens away from you.

The maximum magnifying power of these is x2, although some models have a tiny inset lens of a higher power. If you don't need a higher magnification to read or if the print you are looking at is quite large, they can be used for reading, but you must keep the lens and your eyes still and move the text. (This is known as Steady Eye Strategy – see 'Tips for using hand or stand magnifiers' on page 8.)

Telescopic devices for looking at things in the distance

Telescopic devices for looking at things in the distance have been designed especially for people with low vision. They are smaller and lighter than ordinary telescopic systems and can be used for short periods. Monoculars are for use with one eye and binoculars are for use with both eyes.

Hand-held monocular

They can be used for distance tasks such as watching television (although better results may be achieved by sitting closer to the television), at the theatre, reading the score-board at a sports match, reading noticeboards, road signs, departure boards and bus numbers. They cannot be used for cross-ing a road as distances and speeds are impossible to judge through a telescopic system. Telescopic devices must only be used when you are stationary.

Some Low Vision Services may be able to loan you distance units and show you how to use them, free of charge, but not all.

Successful use of a monocular takes practice but this simple four step approach can help you develop the skill over time:

Step One – Identify a target before using the monocular. Looking towards the target will help you to find the target quickly when using the monocular. Bring the monocular up to the eye, place the rubber cap underneath the upper bone of the eye socket - don't push into eye socket. Initially use a monocular with two hands. Focus on the target by slowly twisting the far end of monocular (or sliding the switch mechanism) until the target is seen.

Step Two – Practise focusing the monocular on different static targets at various distances.

Step Three – To use the monocular to track a moving target, you first need to find a static reference point. For example, if you need to see if an approaching bus is the right one, you will first need to choose a tree or a traffic signal that is at about the right height and near where the bus will first appear. Get that object in focus so that when the bus appears you are ready.

Step Four – Progress to and practice using and focusing the monocular with one hand. Be careful in a crowd that you don't get knocked – supporting your elbow with your other hand may help. There are a few telescopic devices developed for near vision; the majority need to be spectacle mounted and have to be specially made for you.

Spectacle-mounted Aids
Magnifiers in spectacles are not the same as ordinary

spectacles. They may enable you to complete a task without having to hold a device but will involve compromise. Those designed for near vision, either a high-powered single lens (much thicker and heavier than ordinary spectacle lenses) or multi-lens telescopic systems, have a much shorter working distance than other types of magnifiers and have to be made up specifically for each individual person.

Only low powered distance telescopic units can be spectacle-mounted. Higher powers are too long and heavy to be successfully and comfortably mounted on a carrier frame.
Bespoke units made to your prescription and measurements can only be dispensed by an Optometrist or a Dispensing Optician.

Some binocular distance telescopic spectacle mounted units are not bespoke products, made up for specific individuals but do have some degree of adjustability, such as the distance between the two lenses, which can be adjusted to match the inter-pupilliary distance.

Hints and tips for effective use of magnifiers

Lighting

Good, well positioned lighting can make a real difference to the way in which you use your vision.

Good use of task lighting can make life much easier. People are often pleasantly surprised at just how beneficial lighting can be – from enhancing the contrast of text, making print look blacker on a white back-ground to in some cases helping to 'break through' the mistiness in their vision. Lighting can also mean that you can reduce the level of magnification you need to see a particular size of print. Some magnifiers have lights built into them. The key things to bear in mind when considering additional lighting for near tasks like reading, eating and continuing with leisure activities are:

- The task(s) you wish to perform and where you wish to sit

Minimal heat output

Ability to position the light exactly where you need it – ideally below eye level and shining directly onto the object.

Helpful advice and information on lighting and controlling glare can be found in the Society's leaflets Lighting Advice and Anti-Glare Spectacles.

Posture and Position

It is important to maintain good posture when using a magnifier in order to avoid back or neck strain. If you are comfortable and in a natural upright position you will be able to read for longer, but remember short sharp bursts are best to avoid getting tired. Leaning over when reading with low vision aids is not good posture and can restrict breathing as well as blocking the incoming light. Heavy irregular breathing can cause unwanted movement when using low vision aids.

When sitting at a table, the use of a reading stand or even a student's drawing board will help you to maintain an upright position. Clipboards, copyholders, and double ended clamps can also be used, in order to help maintain good posture, by supporting the text and in some cases the magnifier. Adjustable height tray tables (the sort that can be pulled up to a chair) can be useful if choosing to read in an easy chair.

Improvise – use items like cushions to provide additional support for your arms or the object, raising the text and magnifier to a

more comfortable height. You will be able to enjoy reading for longer if you are comfortable.

When reading a magazine or newspaper with your magnifier you may like to try the following technique:

Attach the text to a clip-board, folded around the board as necessary. It can be adjusted when you have read that particular section.

Lean back in your favourite chair, legs out in front of you, with the text you want to read attached to a clipboard, bring the magnifier to your eye and then bring the text close enough to the lens to focus, with your elbows locked into your sides to help you maintain the correct working distance.

Make sure you have enough light for the task either by positioning a task lamp to shine onto the text, but not into your eyes, or by using a magnifier with built-in illumination.

Keep head, eyes and lens steady and move the clipboard with the text along as you read (a bit like a typewriter).

Care of your magnifiers

The majority of magnifiers have plastic lenses, which can be easily scratched, so take care when cleaning or storing your magnifier. As with spectacles never use tissues to clean the lenses, always use a soft cloth. If the lenses **do not** have an anti-reflection coating they can be wiped with warm soapy water, taking care to separate any (electrical) components that would be damaged by water. Never

use solvents for cleaning as they may destroy the lens.

Which spectacles?
People often ask which spectacles should be used with a magnifier. Magnifiers usually work best with one particular pair of spectacles. Some rules of thumb are set out below (but bear in mind these will not work for everyone).

Use the pair of spectacles that the low vision service has recommended. If in doubt as to which pair to use, contact your low vision service or optician for advice. Even if these spectacles do little for you on their own, they are likely to improve your vision a little when combined with magnifiers.

With a hand-held magnifier (one that is not used resting on the page) your distance spectacles, if worn, are generally best.

If using a stand-magnifier or a flat-form magnifier then most people will need to use near focus spectacles. (You may have called these your reading spectacles, even if they no longer help you to read on their own. To avoid confusion, your optician may call them your 'magnifier spectacles' i.e. what you need to use with the magnifier.)

Low Vision Services

What is a low vision service?

The recognised definition is: 'A Low Vision Service is a rehabilitative or habilitative process, which provides a range of service for people with low vision to enable them to make best use of their eyesight and visual function to achieve maximum potential'.

Referral to a Low Vision Service for a low vision assessment will help you decide whether items like magnifiers will be of benefit to you and train you in ways to use them successfully. You should also be shown ways to use your vision more effectively. Some low vision services are based in hospital eye departments and others are now beginning to be located within the community.

Why do I need a low vision assessment?

There are many different types of magnifiers in lots of different powers. An assessment can help you choose which best suits your needs. This will help you avoid unnecessary cost and disappointment. Many low vision services loan magnifiers to individuals free of charge. A low vision assessment is recommended when considering magnifiers but some areas do not have such a service. If this is the case the details of some suppliers of low vision aids (a few are listed at the end of this leaflet).

How do I access a low vision service?

You will need to check locally as to the required referral procedures, perhaps by telephoning the service concerned. In some areas you may be able to self-refer to a low vision service.

If you are not sure where your nearest low vision service is, ask your local eye department, GP, social services sensory impairment team, opticians or local society for people with sight loss. Usually one of these will be able to give you the details.

Low Vision Service Standards

The quality and availability of Low Vision Services across England are slowly but surely changing for the better. Unfortunately it is still very much a postcode lottery. The Department of Health in conjunction with the NHS Eyecare Services and the RNIB published new voluntary standards for Low Vision Services in January 2007.

Everybody involved in any way in Low Vision issues needs to be aware of the standards and actively promote their adoption as a bare minimum of service provision. In a few areas the quality of service available already meets and surpasses these standards but, for the majority, the local picture is far worse with no or very poor quality services.

Let us know how the low vision service in your area measures up to the standards or just what you felt worked well, or didn't, with your local service. Your feedback will help us influence any future updates of the standards and build up a better national picture of what is provided and where.

A few non-optical low vision aids

There are lots of products and equipment available that are designed to be easier to see and use for people with low vision.

Many work on the basis of making things bigger or brighter, such as large face clocks/ watches, large print stickers for a keyboard, telephones with large numbers and brightly coloured kitchen implements.

Use bright and contrasting colours to help differentiate between objects and make them stand out from the background.

Audio or tactile items are not technically counted as low vision aids as these are about vision substitution rather than making the most of residual vision, but it is worth bearing such equipment in mind when choosing items to make your life easier.

As well as everyday items to make life easier, there are leisure products like large print playing cards, scrabble and dominoes. Your local society for the visually impaired may have a demonstration kitchen or resource centre with a display of suitable equipment that you can buy. Companies like RNIB, iC and Cobalt sell a wide variety of such products. Contacts details can be found at the end of this leaflet so that you can obtain catalogues and order any of these useful items. Items like anti-glare spectacles may be available free of charge from your local low vision service.

Selecting the equipment which is right for you is very important. If you are planning to purchase a piece of equipment it is always best to try it out before buying.

Many useful items are available in non-specialist high street shops including brightly coloured cups,

multi-coloured chopping board packs and large kitchen timers.

Anti-glare measures

Many people with macular disease are bothered by glare. Glare is caused by a light source, direct or reflected, being in or near our line of sight or by being comparatively bright compared to our surroundings.

Wearing a hat, cap or sports visor with a broad brim or peak can help but ordinary sunglasses can reduce vision levels by being too dark. Anti-glare spectacles which block blue light may be the answer.

Blue light is thought to be a major contributing factor in glare as it is more easily scattered than other forms of visible light. Blue blocking filters help to reduce glare and can possibly enhance contrast. Blue-blocker lenses tend to be yellow or orange in appearance but an additional tint may be added to improve the cosmetic appearance of the lens.

Different people with similar levels of vision will prefer different depths of colour for specific tasks. This is a personal choice, so try the level of tint before making a decision. The paler version may be preferable for indoor use and darker shades may be beneficial outside in bright sunlight.

People who are extremely sensitive to glare should remember to shield their eyes from the light coming in from the side as well as directly from the front. Wrap-around sun-spectacle styles or those with built in side and brow shields (often known as overshields as they can be worn over the top or ordinary spectacles if wished), will stop the light sneaking in above or from the side.

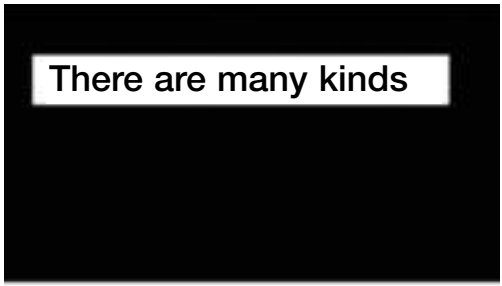
Glare from white paper can be a problem for some and it is not always practical to use matt coloured paper (often yellow is favoured by people with macular disease). It might be possible to get coloured transparent matt overlay sheets from your low vision service or optician to reduce the glare from the page.

Ask for our leaflet on Anti-Glare Spectacles.

Typoscopes

Typoscopes are simple but useful tools. They are often made of black card or plastic with holes cut in them to act as a guide. The surround serves to screen out excess information and glare, allowing you to concentrate on the area of particular interest. Some magnifiers even have a form of typoscope painted onto them, helping to highlight a line of text while you read through the magnifier.

Many people with low vision experience 'visual crowding'. This might occur



Typoscope

if you are trying to read or study a document – for example a magazine – that has so much information (pictures and words) crammed into a small area, that you find it difficult to concentrate on the section you wish to read. Also white paper, especially if glossy, may reflect light in such a way that you are bothered by glare from the page. A typoscope can reduce these difficulties. The typoscope is placed onto the page and moved across the page as you read.

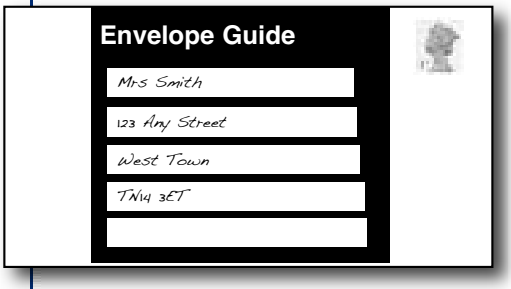
There are many pre-cut typoscopes available, but some people prefer to make their own from black card, cutting the slot to their preferred shape and size and according to the task being performed. For example, the width of a newspaper column and a couple of inches deep is a good size for reading newspaper articles. (A clipboard with the paper folded round it can help keep everything steady; just refold it once you finish reading that section.)

Typoscopes can also be used as a template - for example a cheque book guide is a typoscope. A cheque book guide generally has holes cut in it to indicate the correct space for the date, the amount and the signature, when placed over the cheque.

Cheque book guides should be available on request from your bank or building society. Each organisation has a slightly different layout for their cheque books.

Signature and envelope address guides are available from RNIB Customer Services

(information is given at the end of this leaflet).



Electronic low vision devices - magnification

There are many different types and models of electronic magnifying devices. These incorporate a camera and the image is sent electronically to a viewing screen. Generally, the level of magnification available will be between x2 and x70 depending on the camera and the size of the screen.

Like optical magnifiers, electronic magnifying devices are tools. Unlike optical magnifiers, electronic devices are not generally available on loan from a low vision service. Even if you do buy an electronic magnifying device you may still need optical magnifiers for some tasks. You are not going to be able to read for long periods of time with one, and reading a paperback for pleasure is an unrealistic goal, but they are useful for things like reading food packets, letters, looking at photographs and other similar tasks in short bursts.

They can be very expensive so you need to give careful thought to your needs and what would best meet those before purchasing one. Electronic devices can be extremely useful but all too often we hear from people who have purchased one and are very disappointed once they get it home. You can have two people with very similar levels of vision and

one will get on really well with a specific model but the other person finds that the system distorts badly for them. If you are considering purchasing an electronic magnifying device, have a think about what tasks you want to use it for and where.

This is a large fast growing market, and technological changes mean that image quality is constantly improving and these devices are getting more sophisticated, lighter and more versatile all the time.

To get some idea of what is available, try and go to an event like Sight Village, organised by Queen Alexandra College and held in Birmingham each summer, where the majority of manufacturers exhibit their range of products. This will help you decide what type of device may be most appropriate for your needs, before arranging for demonstrations of specific models. The main switchboard for QAC is 0121 428 5050 or visit www.qac.ac.uk/sightvillage

Smaller events exhibiting products for people with sight loss are held around the country and many local societies for the visually impaired have a small selection of low vision aids for you to look at. A few are able to offer short term loans of CCTVs so you can try one out before you purchase from the manufacturers. The Macular Disease Society Helpline will be able to help you locate a resource centre near to you.

Often the retailers are happy to arrange for a demonstration in your home. When considering suppliers and the various

models that they have in their range think about the following:

Do they offer a trial period on a sale or return basis?

What service maintenance support options are available?

Closed Circuit Television (CCTV) - sometimes called video magnifiers

With the larger table-top devices the object or text is placed beneath a camera and the image is projected onto a TV screen or built-in monitor. These can achieve very high levels of magnification but take up quite a bit of room and are heavy.

Many have controls which can alter contrast, enhance or reverse colours e.g. the image can be changed to white text on a black background instead of the original black text on white paper as well as the ability to adjust focus and magnification levels.

Some have a sliding table mechanism to help you move the object or text more smoothly under the camera. On others, the camera may be hand-held rather than on a fixed stand and will slide over the text. This can be useful if looking at objects with a slightly curved surface such as a

thick book where the text curves towards the spine.

Portable devices have a built in camera and screen and can help you to read with greater flexibility, although you will see less at a time than with the larger devices due to the small screen size.

Some portable devices look a bit like a hand held illuminated stand magnifier with a handle, some are more like a small box with a screen and some are more like a portable DVD player or small lap top with a flip-up hinged screen.

Hand-held CCTV readers are generally cheaper and smaller than the stand mounted CCTVs and consist of a hand held device which you move across the text. Some do not have a built-in screen but plug into your computer or others will plug into a TV if it has a scart socket.

There are several head-mounted electronic devices on the market. The screen is actually mounted close to your eyes, so instead of looking at the object, you are looking at the enlarged image. Some of these have inbuilt auto focus – the camera zooms in and out according to the distance that the object you point the device at is away from the camera.

The less expensive devices may have less functionality and options like colour

changes, but it is possible that an inexpensive device might suit you. Some people invest in a device that costs several thousand pounds and are delighted with it, but in turn it might be absolutely useless for you. Therefore other people's recommendations may only give you a starting point as to what you may like to try.
Be prepared to put some effort and research into finding the right electronic device for you.

A fact sheet on the different types of electronic aids is available from the RNIB by calling 0870 013 9555.

Computers

Computers can enable you to communicate, manage all written work and access a world of helpful information. The internet is becoming more and more accessible for people with sight loss. Anyone can learn to use one. Many local libraries, societies for the visually impaired and organisations such as AbilityNet run training events.

There are some settings that can be changed on your computer to make text and icons easier to see. There are also many products such as large keyboards and software programmes that can either enlarge the screen contents or give you an audio description of it.

Ask for a copy of the MDS leaflet 'Computers and Software'.

Information on suppliers

Suppliers of non-optical low vision aids (catalogues available)

RNIB
RNIB Customer Services
0845 702 3153 (many of these products can be seen at local society resource centres). The RNIB is at 105 Judd Street, London WC1H 9NE.
www.rnib.org.uk.

iC
Unit 3
Marrtree Business Park
Kirkwood Close
Oxspring
Sheffield
S36 8ZP
Tel. 01226 762528

Cobolt Systems Ltd
The Old Mill House
Mill Road
Reedham, Norwich
Norfolk NR13 3TL
Tel. 01493 700172

Large Print Crossword Books are also available from:
Peter Haddock Ltd.
Pinfold Lane Ind. Est.
Bridlington, East Yorkshire
YO16 6BT
Tel. 01262 678121

Big Print Newspaper
Tel. 0800 12 40 07
for free sample

Suppliers of magnifiers

Optima
(Also able to supply lighting and some high-tec low vision aids)
Dartside
Ford Road
Totnes, Devon
TQ9 5LQ
Tel. 01803 864218
www.optimalowvision.co.uk

Low Vision Supplies
The Old Bank
176 Belasis Avenue
Billingham TS23 1EY
Tel. 01642 530801

Edward Marcus Ltd
Unit 3
Marrtree Business Park,
Oxspring
S36 8ZP
Tel. 01226 764082

Computer courses

Abilitynet
Tel. 0800 269545 or
Tel. 01926 312847
www.abilitynet.org.uk
Email:
enquiries@abilitynet.org.uk

Electronic Low Vision Aids

Below are just a few of the many suppliers in this expanding and fast-changing field. The range of assistive devices available includes electronic magnifiers, navigational aids, communications equipment, devices for music and alternatives to printed books. Events like 'Sight Village' and your local resource center can help you to find about the latest developments. **SideView**, the magazine for members of The Macular Disease Society, has regular articles covering the latest high-tech news.

Bierley
Tel. 01983 529590
www.benefitsnowshop.co.uk

Blazie
Tel. 020 8582 0450
Fax. 020 8582 0451
www.blazie.co.uk

Dolphin Computer Access Ltd
Tel. 0845 130 5353
www.dolphinuk.co.uk
Email:
info@dolphinuk.co.uk

Force Ten Co. Ltd
Tel. 01372 45 08 87
www.forcetenco.co.uk

Hagger Electronics
Tel. 01462 67 73 31
www.hagger.co.uk
Horizon
Tel. 01884 25 41 72
Magnifiers.co.uk

Humanware
Tel. 01933 41 58 00
www.humanware.com

Modern World Data Ltd
Tel. 01341 42 20 44
www.modern-world-data.com

Optelec Ltd
Tel. 01923 231 313
www.optelec.co.uk

Sight & Sound Technology
Tel. 0845 634 7979
www.sightandsound.co.uk

Visualeyes
Tel. 01623 75 46 46
www.visualeyesuk.com