



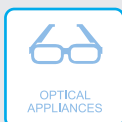
## COMPETENCIES COVERED

## DISPENSING OPTICIANS

Communication, Standards of Practice, Low Vision

## OPTOMETRISTS

Communication, Standards of Practice, Optical Appliances, Assessment of Visual Function



This CET has been approved for 1 point by the GOC. It is open to all FBDO members, and associate member optometrists. The multiple-choice questions (MCQs) for this month's CET are available **online only**, to comply with the GOC's Good Practice Guidance for this type of CET. Insert your answers to the six MCQs online at [www.abdo.org.uk](http://www.abdo.org.uk). After member login, go into the secure membership portal and CET Online will be found on the L menu. **Questions will be presented in random order.** Please ensure that your email address and GOC number are up-to-date. The pass mark is 60 per cent. The answers will appear in the December 2020 issue of *Dispensing Optics*. The closing date is 12 November 2020.



C-75872 Approved for 1 CET Point

# Getting started in low vision is as easy as A, B, See

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**L**ow vision assessments are not as scary as they might seem. As professionals, dispensing opticians (DOs) can make a real difference to those individuals who have been diagnosed with some form of sight loss. Every practitioner is different and so their methods may vary. Low vision assessment do not need to be carried out in a specialist environment, any DO practising on the High Street has the tools to assess a low vision patient (Figure 1).

A qualified DO or optometrist can assess, advise and dispense any low vision patient. It is also possible to complete further studies in low vision if desired, though the Low Vision Honours course offered by ABDO or courses offered by the Wales Optometry Postgraduate Education Centre (WOPEC).

This article will take you through how to potentially conduct a low vision assessment. The easiest way to get

started is to break it down into different sections. The why, the who, the where, the what and the when.

## WHY DO WE NEED LOW VISION ASSESSMENTS?

Patients may be socially isolated, more depressed, more likely to fall and to lack the independence they crave. Almost half of blind and partially sighted people feel 'moderately' or 'completely' cut off from people and things around them. Older people with sight loss are almost three times more likely to experience depression than people with good vision. Approaching one in 10 falls that result in hospital admissions occur in individuals with visual impairment<sup>1</sup>.

## WHO CAN ACCESS A LOW VISION ASSESSMENT AND WHERE?

Anyone with sight loss can access a low vision assessment. How successful they are is determined by how open the



Figure 1: Any DO has the tools to assess a low vision patient

FORMAL	INFORMAL
Optometrists	Friends
Dispensing opticians	Groups
Ophthalmic nurses	Forums
Orthoptists	

Table 1: Low vision assessment types

patient is to change. Also they need to understand that they may need to do things differently and be prepared to learn skills again. The most important part is that the patient understands that they have a problem, and wants advice and support to help solve it.

Low vision assessments can be divided into formal and informal (**Table 1**). Formal services occur primarily in hospitals, third sector (charities) and High Street optical services. Informal services occur anywhere, they can include group peer support, telephone befriending and emotional support. Formal and informal can offer ongoing support. Both are important and are needed to help and support the individual through their journey.

## WHAT IS LOW VISION?

The following two definitions of low vision can be found in the literature: "A person with low vision is one who has an impairment of visual function for whom full remediation is not possible by conventional spectacles, contact lenses or medical intervention and which causes restriction in that person's everyday life"<sup>2</sup>; "Low vision is visual acuity less than 6/18 and equal to, or better than, 3/60 in the better eye with best correction"<sup>3</sup>.

In layman's terms, low vision refers to people who still can't see what is needed for their lifestyle, even when wearing their spectacles or having their contact lenses in.

**Table 2** shows the definitions of sight loss registration. Being registered can provide some meaningful and informative advantages. It can enable the patient to claim a range of concessions. These include support with council tax, half price television licence, help with NHS costs, some free public transport, leisure discounts and certain tax allowances.

Concessions are determined by whether the patient is registered as sight impaired (SI) or severely sight impaired (SSI). Sadly, being registered does not automatically entitle the patient to welfare benefits but it can, in certain circumstances, make the claim easier as the registration can help corroborate the claim. The patient will be provided with a registration card, which demonstrates the entitlement.

Not all people choose to register as SI or SSI, for a variety of reasons. For example, they do not see the benefit, there is a stigma attached to doing so, or it is not offered to them. It is important to remember that the hospital consultant



Figure 2. Patients can begin using aids soon after diagnosis

ophthalmologist is the only person who can certify someone as SI or SSI.

An eye clinic liaison officer (ECLO) is based within the eye department at the hospital. Working with all the staff within the department, they are often the first contact point for patients facing sight loss. They have an extremely vital role in providing information, both practical and emotional, to help and support the patients throughout their sight loss journey. They are essential in helping patients understand the impact of sight loss, and are crucial in signposting to the relevant internal and external agencies or support mechanisms.

## WHEN SHOULD WE UNDERTAKE A LOW VISION ASSESSMENT?

A low vision assessment can be completed at any time after the diagnosis, however, the sooner it is fulfilled, the sooner the patient can start to use advice, aids and training (**Figure 2**). This in itself gives the patient a more positive outlook for the future. Referrals to a low vision clinic can originate from a myriad of sources, including:

- **Hospital eye service (HES):** the referral may be after the initial diagnosis, during or after the discharge of the patient
- **GP:** the referral may be as a by-product of another appointment where it was noted that sight loss was an issue
- **Social services:** the referral may be from a visit or a telephone call

SEVERELY SIGHT IMPAIRED (SSI: BLIND)	SIGHT IMPAIRED (SI: PARTIALLY SIGHTED)
Visual acuity of less than 3/60 with a full visual field	Visual acuity of 3/60 to 6/60 with a full field of vision
Visual acuity between 3/60 and 6/60 with a severe reduction of field of vision, such as tunnel vision	Visual acuity of up to 6/24 with a moderate reduction of field of vision or with a central part of vision that is cloudy or blurry
Visual acuity of 6/60 or above but with a very reduced field of vision, especially if a lot of sight is missing in the lower part of the field	Visual acuity of 6/18 or even better if a large part of your field of vision, for example a whole half of your vision, is missing or a lot of your peripheral vision is missing

Table 2: Definitions of sight loss registration<sup>4</sup>

where sight loss was either mentioned or noticed

- **ECLOs:** the referral may be after the initial diagnosis, during or after the discharge of the patient
- **Opticians:** the referral may arise when spectacles cannot correct the issue
- **Education environment:** the referral may arise from a statemented child or young person, or possibly from a university seeking help and support for a student
- **Counsellors:** the referral may be from a comment stated during the appointment
- **Family:** the referral may be from a concerned family member who is keen to help and support the patient
- **Carer:** the referral may arise from a home visit or a care home seeking help and support
- **Self-referral:** this arises from the patient themselves seeking help and support

With all these referral streams, the patient must consent for the referral to be forwarded on. Details of the referral must be documented and, if possible, explained to the patient.

## OCULAR CONDITIONS LEADING TO LOW VISION

Common ocular conditions, mainly affecting the ageing population, which may lead to low vision include age-related macular degeneration (AMD), both wet and dry, glaucoma, diabetic retinopathy and cataracts<sup>5</sup>.

Dry AMD can include difficulty with reading, writing, watching television, sewing, sorting coins or any other activity which uses the central portion of the vision. Dry AMD normally occurs over a period of time and is not sudden. Wet AMD is a more sudden deterioration within the central vision. At present, there is no cure – but advocating regular eye examinations, healthy eating and ceasing smoking is among the guidance given for sufferers.

Glaucoma is mostly asymptomatic, however, this will depend on the type. In primary open angle glaucoma, the visual loss happens over a long period of time and affects peripheral vision. Encouraging all patients to have regular eye examinations can enable

optometrists to spot the signs earlier and refer on when necessary.

With diabetes, if the blood sugar levels are not well controlled, the eyes can be affected causing symptoms that include blurry and patchy vision. All diabetic patients should be encouraged to attend their yearly diabetic eye screening appointment as this can help with early diagnosis of diabetic changes. Cataracts are seen routinely within High Street opticians and symptoms can include blurry vision and issues with glare from light sources.

Less common ocular conditions can include retinitis pigmentosa, Stargardt's disease, rod/cone dystrophy and optic atrophy. As these primarily affect the younger population, encouraging parents and carers to bring children to eye examinations is paramount in the initial detection. Congenital or genetically-related ocular conditions highlight the importance of ocular history and family ocular history.

Advocating the importance of regular eye examinations, even if the patient is already registered as SI or SSI, is crucial. Unfortunately, just because one eye condition is present does not preclude individuals from another eye condition occurring. As with all illnesses, the earlier the detection the better the prognosis.

## HOW TO UNDERTAKEN A LOW VISION ASSESSMENT

A low vision assessment aims to improve the quality of life of the patient by enabling them to use their residual vision to its maximum potential. The use of residual vision may be increased by the use of the following:

- **Optical aids:** these are optical devices that provide help and support for everyday tasks that patients may find difficult
- **Information and advice:** signposting to internal or external agencies, leaflets or verbal information may be able to provide guidance, training and support for the patient
- **Training:** this can include training patients in the use of optical devices or technology to the best of their ability
- **Environmental changes:** this can include advice on lighting, guidance on practical issues like cooking.

Referral for mobility aids and training  
A low vision assessment is not a

magic cure and the patient gets out what they put in. As professionals, we need to communicate successfully, gain the patient's trust and manage their expectations of what we can achieve.

First, a full assessment of the patient's needs is required. It is important the patient is listened to very carefully, taking body language into account as well as the words used. Needs can vary tremendously and it is important that the 'real' need is addressed rather than the 'perceived' need. Too often, services can be tailored to what can be provided rather than what the patient needs.

It is essential to discuss the setting of realistic goals with the patient, and to find out how much knowledge they have of their eye condition/s. The degree of knowledge will vary greatly. Understanding the goals and knowledge can be crucial in managing their expectations.

The patient may be in need of a full eye examination, which will check refraction and for treatable disease amongst many other things. Assessing the habitual position of lighting, aids and any adaptations around the home can also provide useful information.

The assessment of visual function can be used by using either a logMAR or Snellen chart. LogMAR charts are preferred by most low vision practitioners as they have an equal number of letters per line and allow the use of single letter scoring, which reduces test and retest variability. They also have equal logarithmic interval between lines and equal average legibility for each line. This reduces the margin of error and guesswork from the patient meaning a more accurate level of vision can be obtained.

In the author's opinion, the most important benefit of the LogMAR chart is that it can be moved closer to the patient. However, the Snellen chart can still be utilised. Obviously this is personal choice and each practitioner will have their own preferred chart.

Near vision charts are used next at the patient's preferred working distance to attain near acuities. Bailey-Lovie near charts are near vision charts that use unrelated words arranged in a logarithmic progression of size. They standardise the test task by controlling typeface, spacings and number of words per row, making each group of words of approximately equal difficulty.

## Example 1: Calculating near vision magnification required

*The patient can see N24 at 25cm and wants to read large print letter at N12.*

**That is:  $N24/N12 = 2$**

**Therefore, the patient requires 2x magnification.**

*This will give an ability to spot read. For example, a date or an amount on a bank statement.*

Bailey-Lovie near charts offer special advantages for systematic assessment of reading acuity and visual efficiency for reading. The logarithmic progression of print size on these charts can be used to facilitate prediction of the magnitude of changes in visual performance resulting from changes in optical parameters, and the magnitude of changes in optical parameters required to achieve desired levels of visual performance<sup>6</sup>.

Once you have the acuities, you can then calculate the estimation of magnification required. For near vision, you need to measure your acuities again at 25cm then you can use the simple equation in **Example 1** to calculate your

starting magnification. It is ideal, if time allows, to assess near acuities at both the preferred working distance and at 25cm.

If your patient wants to read fluently then you need to be aware of acuity reserve. Acuity reserve is defined as a ratio of a given print size to the near acuity threshold for reading a letter or a character (**Example 2**). Acuity reserve is usually calculated at 2:1, however, some practitioners use 3:1. For the basis of this article, we will use 2:1.

Please bear in mind that, if you increase the power of a magnifier, you also reduce the field of view and the working distance. This is an important point. You must discuss this with your



Figure 3. Magnifiers are the most common aid provided

patient as they automatically expect to use their normal, and comfortable, working distance.

Once you have these details, you can trial magnifying aids. These could be for near or distance, depending on the assessment of need.

### PROVIDING OPTICAL AIDS

Magnifiers are the most common aid provided (**Figure 3**). The range of types include hand, stand, electronic and telescopic devices. To achieve magnification, you need to enlarge the size of the image on the retina. This is successful because, even though the object is easier to see due to the increase in size, the size of the visual loss does not alter.

These are four different types of magnification:

1. **Relative distance magnification:** this reduces the patient's viewing distance, e.g. by sitting closer to the TV
2. **Relative size magnification:** this makes the print bigger, e.g. large print books/bills
3. **Transverse magnification:** this refers to real image magnification, e.g. electronic devices and CCTVs
4. **Telescopic magnification:** this refers to angular magnification, e.g. telescopes/monoculars, etc

Each patient will need one or more of these types of magnification to help them achieve their goal. Training is then needed to teach the patient to use the

## Example 2: Calculating magnification with acuity reserve

*To read N12 fluently, we need to enable the patient to spot read N6.*

**That is:  $12/2 = 6$**

**The calculation now becomes  $N24/N6 = 4$**

**Therefore, the patient requires 4x magnification.**

*A 4x magnifier will enable N12 fluently and N6 spot reading.*



device correctly and to the best of their ability. This is hugely important because if used incorrectly, devices can have a very negative impact on the patient. Take time over this and give 'homework' tasks if necessary. Remind the patient: practice makes perfect.

Remember to give any information and advice in a suitable format for your patient. This may be large print, email, text, and so on. It is possible that a referral on to other support networks may be needed. This could include rehabilitation needs, IT/accessibility, mobility, emotional support, HES, GP and social services amongst many others.

The following are some very simple, quick easy wins for the patient:

- **Make things bigger:** increase font size, use a Kindle, large print, smartphones
- **Make things bolder**
- **Make things darker:** use felt tip pens and thicker lined writing paper
- **Make things brighter**

## PROVIDING EMOTIONAL SUPPORT

It is estimated that about 155,000 visual rehabilitation appointments are provided for people with a visual impairment in the UK each year, and that about one third of them are likely to have significant depressive symptoms<sup>7</sup>.

Emotional support is crucial to the mental health and wellbeing of our patients. Referral can be to an in-house provision, the Royal National Institute of Blind People (RNIB), the Macular Disease Society, the patient's GP, the Samaritans

or any other referral mechanism within the local area. Counselling discusses many thoughts, worries and concerns including those of identity ('Why am I different?'), the frustrations and potential disruptive behaviour that the patient may have.

## LIGHTING AND LIGHT POSITIONING

Lighting is the one of the easiest solutions, but providing advice on lighting can be very commonly ignored (**Figure 3**). We are creatures of habit and asking people to change things around can be met with resistance. The best strategy is to have a light to hand and actually show the patient, and their family member if they have attended, the difference that light can make.

Remember too that contrast can have a huge impact in the home. Look at the colours of cups, work surfaces, plates, mats, etc, and ask the patient to contrast the colours as much as possible. Again, try to have a black cup and a white plate to show the difference.

Working within the low vision sector is extremely rewarding. Being able to make your patient smile again really is the best feeling in the world (**Figure 4**).

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LVA is clinic lead at Focus Birmingham, an ABDO examiner in dispensing and low vision, and assistant principal examiner for the Worshipful Company of Spectacle Makers.

## REFERENCES

1. Kaye A and Connolly P. Facing blindness alone. RNIB. 2013. Available from: <https://www.rnib.org.uk/sites/default/files/Facing%20blindness%20alone%20Campaign%20report.pdf> [Accessed 18 May 2020].
2. Low Vision Services Consensus Group.
3. World Health Organisation. Blindness and vision impairment prevention. Available from: <https://www.who.int/blindness/causes/priority/en/index4.html> [Accessed 19 May 2020].
4. RNIB. The criteria for certification. Available from: <https://www.rnib.org.uk/eye-health/registering-your-sight-loss/criteria-certification> [Accessed 19 May 2020].
5. RNIB. Eye conditions. Available from: <https://www.rnib.org.uk/eye-health/eye-conditions> [Accessed 8 June 2020].
6. Bailey IL and Lovie JE. The design and use of a new near-vision chart. *Am. J. Optom. Physiol. Opt.* 1980;57(6):378-87. <https://pubmed.ncbi.nlm.nih.gov/7406006/> [Accessed 10 June 2020].
7. Margrain TH et al. The Depression in Visual Impairment Trial (DEPVI): trial design and protocol. *BMC Psychiatry* 2012;12:57.



Figure 4: Making your patient smile again is the best feeling in the world

Low Vision Services. Recommendations for future service delivery in the UK.

RNIB. 1999. Available from:

<http://www.lowvision.org.uk/publications.html>

[Accessed 19 May 2020].

3. World Health Organisation. Blindness and vision impairment prevention. Available from: <https://www.who.int/blindness/causes/priority/en/index4.html> [Accessed 19 May 2020].
4. RNIB. The criteria for certification. Available from: <https://www.rnib.org.uk/eye-health/registering-your-sight-loss/criteria-certification> [Accessed 19 May 2020].
5. RNIB. Eye conditions. Available from: <https://www.rnib.org.uk/eye-health/eye-conditions> [Accessed 8 June 2020].
6. Bailey IL and Lovie JE. The design and use of a new near-vision chart. *Am. J. Optom. Physiol. Opt.* 1980;57(6):378-87. <https://pubmed.ncbi.nlm.nih.gov/7406006/> [Accessed 10 June 2020].
7. Margrain TH et al. The Depression in Visual Impairment Trial (DEPVI): trial design and protocol. *BMC Psychiatry* 2012;12:57.



Figure 3: Lighting is one of the easiest solutions

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