

Emerging Visual Impairment and
Community Optometrists: initial
diagnosticians, potential triggers for
depression and initiators of the
rehabilitation process.
A Gap Analysis.



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Introduction: The UK Vision Strategy and a vital Gap Analysis.

The Low Vision Services Consensus Group (1999) identified fragmentation of services, lack of multi-disciplinary working and inadequate communication between providers as significant challenges to successful implementation of a comprehensive low vision service. The group further recommended patients be able to access services at any stage after visual impairment is identified, regardless of registration or clinical parameters, but ideally after a full eye examination by an optometrist or ophthalmologist.

The more recent UK Vision Strategy (2008) stated its' intention to improve the coordination, integration, reach and effectiveness of eye health services and support for people with permanent sight loss. The document stipulates this will be aided by commissioning fully integrated and effective sight loss services from both primary and secondary care ensuring a seamless, effective, timely and accessible patient centred service; a unified strategy being essential to influence decision makers.

EPIC (Engagement, Partnership, Information, Communication) (2012) is an initiative to ensure key stakeholder engagement in service planning, facilitating a better understanding and consequently improved working partnerships between various potential service providers and user groups. The consultation process highlighted several vital, but under-recognised, gaps in care provision.

The role and value of optometric involvement was not fully appreciated. The articulated understanding, at least by the service users, was that 'opticians' sold spectacles, regardless of clinical necessities. However, user groups tend to represent established, empowered and involved service users, introduced to the various providers by avenues other than optometry. Likewise the service providers, autonomous groups with individualised budgets, goals and client demographics and strong affiliations with the hospital system cannot be expected to appreciate the vital role of optometry in a community led service.

Within the hospital system there is, at least in theory, a link from health care to social care. The Eye Clinical Liaison Officer providing the conduit ensuring patients receive appropriate management at an appropriate time (RCO 2007). This group further stresses registration as visually or severely visually impaired constitutes a crucial gateway to support including rehabilitation, low vision devices and counselling, although 83% of visually impaired attendees at a hospital eye clinic were not offered emotional support (SSMR 2009).

Regardless, this process ignores patients not requiring referral for medical interventions, remain below the threshold for registration but who still experience functional vision loss and associated emotional distress.

Table 1 gives the quantified visual requirements for registration as visually or severely visually impaired in the UK (Jackson 2007); levels representing significant visual disabilities.

Table 1. Quantifiable Categories of Visual Impairment (Partial Sight) and Severe Visual impairment (Blind), UK (adapted from Jackson 2007)

	Quantifiable Levels for Visual Impairment (Partial Sight) UK
Group 1	VA of 6/120 (1.3) to 6/60 (1.0) with Full Fields
Group 2	VA of up to 6/24 (0.6) with a moderate field constriction, media opacity or aphakia
Group 3	VA of 6/18 (0.5) or better with a gross field defect such as hemianopia
	Quantifiable Levels for Severe Visual Impairment (Blind) UK
Group 1	VA of less than 6/120 (1.3) with Full Fields
Group 2	VA ranging from 6/120 (1.3) to less than 6/60 (1.0) with significantly contracted visual fields(>5° but ≤ 10°)
Group 3	VA of 6/60 (1.0) or better a gross visual field constriction, particularly in the inferior field (≤ 5°)

Reidy et al (1998) reported 30% of patients over 65 had a visual acuity of less than 6/12(LogMAR0.3), a level below the legal limit for driving (Smeeth and Iliffe 1998). The number of people with reduced vision not necessitating referral or registration is enormous.

Community optometrists deal routinely with patients demonstrating emerging visual impairment. These patients are under-represented at the planning and legislative level and their needs are less likely to be considered or met.

Considering the Royal College of General Practitioners commitment to eye health (PCC 2012) it seems timely to present an argument supporting the role of community optometry in future service provision for patients with visual impairment.

The Optometrist: Diagnostician and Assessor of Functional Vision

The Royal College of General Practitioners (PCC 2012), in conjunction with the UK Vision Strategy, identified eye health as a clinical priority from 2013. However, Malhotra et al (2001) indicated visual screening, if done by GPs, consisted of vision related questions or recording snellen acuity. Subsequent management reflected uncertainty, 24% referred to a community optometrist but 45% gave no response. Owen and Phillips (2010) also noted a significant proportion of GPs are not confident in recognising

diabetic retinopathy, glaucoma or age-related macular degeneration, a significant observation since all have treatable categories.

Without a differential diagnosis and assessment of functional vision and emotional adaptation a GP is unlikely to recognise the most appropriate management plan. To differentiate acute and potentially sight threatening problems the GP could refer directly to the Hospital Eye Service (HES) with the associated costs, inconvenience to the patient and increased burden on the HES. The immediate role of Optometry is self evident; differentially diagnosing serious and acute conditions from the routine or untreatable.

Wolffsohn and Cochrane (2000) and Jackson (2007) stress patients are most interested in how the visual problem impacts on their abilities to undertake daily tasks rather than the actual nature of the condition. This statement must be tempered by the understanding that successful rehabilitation improves with empowered patients who understand the disease process (Brilliant and Appel 1999). Regardless, GPs could easily access the Low Vision Leaflet (LVL). Unlike the Certificate of Visual Impairment (CVI), a prescriptive process completed by an ophthalmologist, the LVL is designed for self referral to social services within the community setting and considers functional, quality of life issues specifically (Figure 1)(Boyce 2012, DoH 2003).

Figure 1 Low Vision Leaflet (LVL) (DoH 2003)

Does poor eyesight sometimes make your life difficult?

You may benefit from advice and support that your local council social services department (or its designated agency) can provide for you.

Your council has a duty to:

- Advise you of the range of services available to people with sight problems
- Carry out an assessment of your needs

These services can include:

- Supply of special equipment
- Training to manage daily tasks
- Arranging for you to be registered (if your eye specialist determines you are eligible and you consent).

Attention Driving Licence holders

In accordance with the advice shown on the driving licence, any driver with impaired vision should inform the DVLA, who will consider each case on an individual basis.

Contact the DVLA at:
 Drivers Medical Branch
 DVLA
 Swansea
 SA99 1TU
 0870 600 0301

Provided by

Do you have a visual impairment?



Local information and Services

Self-referral for visual impairment

Please contact me about my sight difficulties.

My name:

Date of birth:

Address:

Postcode:

Telephone number and / or email address:

Do you need an interpreter / translation? (tick) YES NO

I would prefer information in:

 (language)

Do you live alone? (tick)

YES NO

Do you have responsibilities as a carer? (tick) YES NO

Please tick any relevant statements about the practical effects of your sight difficulties.

I have (tick):

- Difficulty getting about
- A hearing impairment
- Other conditions (specify)

I am especially concerned about (tick):

- Cooking on my own
- Crossing roads safely
- Becoming isolated
- Feelings of distress
- Coping at work
- Coping at school / college
- Reading
- Other - please specify

In the first instance, please contact (tick):

- Me A representative
- A friend A relative

Contact name & details:

Make contact first by (tick):

- Phone Visit
- Letter Email

Send me information in (tick):

- Large Print Email
- Disk Tape

How to ask for help or advice

- Fill in the form
- Cut along the dotted line
- Keep this part for your information
- Send the form part to:

(Social services or agent to insert details here in 16 pt size print)

If you have any difficulties in relation to these matters, you can contact:

- Citizen's Advice Bureau
- The RNIB Helpline (local call rate): **0845 766 9999**
- Your local voluntary organisation for visually impaired people.

However, relying solely on any subjective questionnaire, without a thorough visual assessment, results in extremely high false positive referrals to rehabilitative services. Patients failing a quality of life questionnaire but actually requiring remedial care, either medical or optical, is as high as 72% (Malhotra et al 2001, Elliott et al 1998). Rovner et al (2002) also indicate the reliance on self reported visual disabilities in isolation cannot control for the confounding effect of depression on recorded ratings. Referral based solely on subjective disability would cause undue burden on social services; rehabilitation officers would have no diagnosis or quantified vision baselines on which to customise an individualised care plan.

The criteria for inclusion on an official visual impairment register are also not easily assessed in a GP surgery. Indeed the visual standards themselves are somewhat arbitrary and open for debate (Dandona and Dandona 2006). Barry and Murray (2005) specifically incorporated the WHO classification of Partial Sight in their study and identified a significant number of patients who met the WHO standards but not the DB8 (CVI) guidelines. These authors further indicated ophthalmologists demonstrate poor compliance with registration guidelines; poor sensitivity and specificity of registration appeared independent of the grade of ophthalmologist.

Optometrists are the only community based professionals equipped to assess and initiate the most appropriate management plan for individual patients. Brilliant and Appel (1999) state a careful ocular examination is fundamentally the first step before

low vision rehabilitation commences although they suggest this process can easily be ignored and functional difficulties attributed solely to the pathological disorder.

Community optometrists, while initiating diagnosis, potentially constitute the first line of rehabilitation. A thorough case history with an emphasis on quality of life difficulties is essential. Empathy and a realisation patients do not necessarily have a clinical vocabulary are important; patients may even appear embarrassed by the vagueness of their descriptions. 'I want to keep cleaning my glasses'. 'My vision just doesn't seem right'. 'Words seem to run into each other'. The vocabulary may be non-clinical but the symptoms represent real life problems and must not be trivialised. Prompting by an empathetic practitioner will also help a patient realise their concerns are understood; 'Do you also find glare at night an increasing problem?' Indeed, Lee et al (2009) noted subjective impressions of 'trouble seeing' and 'blurry vision' were associated with functional visual difficulties and consequently reduced mental health. If, after apparently listening to the patient and fulfilling a GOS eye examination the optometrist states the prescription has not changed, without qualification the presenting complaints have been ignored and the patient's time and emotional resources wasted.

Traditional clinical requirements must not be ignored; diagnosis, high contrast LogMAR distance and near acuity, visual fields and investigating occupational and vocational demands. However, more qualitative assessments of low contrast vision, glare, reading fluency and reserves must be considered; Nowakowski (1994) emphasises how important these measures are in identifying rehabilitation goals. An understanding of the patient's personal

situation, support network, significant life events, personality and motivation is also vital (Granboyes 1999, Crossland and Culham 2000, Lee et al 2009, Verstraten et al 2005).

The emotional and psychosocial impact of visual disabilities is now recognised to be of paramount importance if successful rehabilitation is to be achieved (Graboyes 1999, Casten et al 2004). If onward referral is deemed necessary, clinically or for further non-optical aid, the optometrist should initiate the educational process of patient empowerment. This is necessarily time consuming but essential in ensuring subsequent professionals are not faced with a confused and potentially frightened patient.

The Optometrist: Potential trigger for depression and Initiator of the rehabilitation process.

Patients with emerging visual impairments represent a largely unrecognised group who require not only optical and diagnostic help but also empathy and psychological support.

Low vision rehabilitation may, to some professionals, represent a technical process of visual assessment followed by the prescription of visual aids. This technical process will be most effective when the patient has accepted the condition and limitations imposed. Since the expectation when vision is reduced

is stronger spectacles will correct the problem, it is an understandable shock to be told this is not the case. Even if the patient understands the problem there often remains an unrequited hope that uncomplicated vision enhancement will be forthcoming. As the initiating diagnostician who must present a prognosis and advice, the community optometrist is uniquely placed to initiate a total rehabilitation process while simultaneously triggering emotional obstacles to the process.

The Kubler-Ross grief cycle is now widely accepted to apply to any personal trauma or change, regardless of cause (Chapman 2009). Reported variations exist but stages include denial, anger, bargaining, depression and acceptance (Crossland and Culham 2000, Graboyes 1999, Silver 2007, Nowakowski 1994, Tabrett and Latham 2009); certainly emotions and behaviours experienced by patients coming to terms with vision loss. This should not be unexpected. Graboyes (1999) reports blindness as the most feared disability inducing emotional distress comparable to melanoma, AIDS, bone marrow transplant (Casten et al 2004) cardiovascular disease, stroke, cancer and diabetes (Casten and Rovner 2008).

The duration and sequence of the stages vary (Crossland and Culham 2000) and can be considered positive processes in the required life adjustment (Tabrett and Latham 2009). However normal bereavement can evolve into more serious depressive disorders if the depressive mood persists (Tabrett and Latham 2009).

It is the functional limitation created by a disorder which causes a disability rather than the disease itself (Tabrett and Latham 2009). People with AMD have significantly greater difficulty shopping, managing finances, meal preparation, housework and using telephones (Casten et al 2004). Restricting Activities of Daily Living does impact on depression rates (Evans et al 2007). Certainly optometrists need to identify signs of major depression simply to ensure prompt referral to appropriate professionals. There are a number of instruments available to screen for depression (Knott 2011), however Arroll et al (2003), Knott (2011) and NICE (2009) recommend two questions which can be readily incorporated into a case history:

- 1) 'During the last month, have you often been bothered by feeling down, depressed or hopeless?
- 2) During the last month, have you often been bothered by having little interest or pleasure in doing things?

A positive response to either question requires further investigation (NICE 2009, Knott 2011); with reference to low vision this recommendation is supported by the College of Optometrists (Tabrett and Latham 2009). In the opinion of the author this sensitive subject is best approached openly by explaining it is quite normal and indeed expected that a level of depression will accompany the adaption process.

This certainly appears to be the case. Prevalence of depressive symptoms experienced by patients with acquired visual impairment, living independently within the community, is reported as high as 45% (Tabrett and Latham 2009, Casten et al 2004), a

figure significantly higher than age matched patients without visual impairment.

Rovner et al (2002) found 33% of patients with new-onset bilateral AMD met criteria for major depression. Increased depressive symptoms are also associated with worse visual acuity at baseline (Tabrett and Latham 2009, Rovner et al 2002). The resilience and self-sufficiency of each patient is also important. Patients already exhibiting depressed signs at diagnosis are significantly more likely to show a decline in visual function over time (Casten et al 2004). A patient with a history of anxiety and depression is more likely to require emotional and counselling support. This emphasises the need for optometrists to take an inclusive medical history. Many drugs have multiple indications and these need to be identified; recording a drug inventory without a frame of reference serves little purpose.

Less significant visual loss however must not be trivialised. Tabrett and Latham (2009) noted unilateral vision loss due to AMD could induce marked levels of depression, regardless of good binocular visual function; an opinion supported by Vu et al (2005). Tabrett and Latham (2009) further indicated newly diagnosed, asymptomatic, glaucoma can also induce significant depressive symptoms. As part of the Early Manifest Glaucoma Treatment Study, Jampel et al (2009) found self-reported visual function correlated to depressed mood but not objective measures of visual status.

It has been suggested these levels of depression reflect the fear of progression (Casten et al 2004). The transient depression accompanying any stressful life event usually resolves with time,

however vision loss is usually irreversible meaning the trigger for depression does not dissipate (Tabrett and Latham 2009). This perhaps explains why depression can deepen in individual patients and becomes more prevalent post diagnosis, independently of changes to measurable visual status (Rovner et al 2002, Rovner and Casten 2008)

However, even patients with treatable cataracts, referred and on waiting lists for extraction, can demonstrate increased levels of depressive symptoms (Freeman et al 2009). This could reflect simple frustration with restrictions to activities of daily living despite understanding the remedial nature of the problem.

So why is emphasis on depression, even mild depression, made? Even sub-threshold depression has been shown to compound the functional disability, beyond that attributable to the vision alone (Casten and Rovner 2008, Nyman et al 2010). Casten and Rovner (2008) found patients minimally depressed at diagnosis were at high risk of developing severe depressive disorders and to suffer reduced visual function regardless of clinically stable visual metrics. Managing depression, even in isolation, will improve functional visual performance (Casten et al 2004).

It would seem prudent to assume the presence of, and proactively manage, sub-threshold depression in patients with evolving visual impairments.

Crossland and Culham (2000) indicate a significant prognostic factor in rehabilitative success is the patient taking personal control

of the situation, committing to themselves and dependents and approaching change as challenges rather than threats. The authors' stress these concepts should be incorporated at the earliest stage; when the initiating optometrist first articulates the failure of spectacles to fulfil the patient expectations.

The initiating optometrist is an invaluable source of information and basic counselling to help patients adapt to their vision loss (Crossland and Culham 2000). These processes must be handled with empathy and understanding. This is a vital rehabilitative strategy; the attitude of professionals delivering care has been demonstrated to be crucial to the successful adaptation to vision loss (Silver 2007); a valid low vision appointment may consist solely of talking.

Even if onward referral for another professional's help is appropriate, optometrists must initiate patient empowerment and introduce a problem solving ethos. Problem Solving Treatment (Rovner et al 2007) has been demonstrated to reduce the development of depressive states, which in turn improves rehabilitative outcomes (Casten et al 2004). The effect of Problem Solving Treatment however does wane (Rovner and Casten 2008), making repeated reinforcement or indeed initiation, by all professionals involved, vital in maintaining personal hardiness and resilience.

Patients must be active participants in the rehabilitative process; this necessitates an understanding of the disease process (Brilliant and Appel 1999). Appendix 1 gives a single example of a Fact Sheet on a visual disorder; emphasising the functional impact more than the physical disorder. Also important is a good support

network; the entire family, including carers, are victims of the vision loss (Graboyes 1999) and, with the patient's approval, need to be included in the educational and rehabilitative process.

The perception when visiting a high street optometrist is for sight enhancement via optical correction, rather than primary health care (Hayden 2012). The unexpected outcome of not having stronger spectacles prescribed may need significant commitment of time and patience. The temptation to prescribe new spectacles, unless a significant improvement can be attained, must be avoided as this will simply compound the disappointment when they apparently underperform, leaving the patient in a more vulnerable position.

The Royal College of Ophthalmologists (2009) acknowledge the need for supporting written information. Written information, however, must be to support the verbal communication, not replace it. Patients are far more likely to accept an outcome if they understand it (Brilliant and Appel 1999).

For emerging visual impairment the introduction of alternative visual strategies is often straightforward and of great help to the patient, family and future service providers. Optometrists should introduce the discussion and advice as utterly routine and in terms of easily surmountable problems. Assessing reading limits in normal clinic illumination first, then turning on the target light has an immediate positive impact. This demonstration initiates discussion on environmental aspects of vision as opposed to a simple optical appliance. Advice and supporting information on 'Big/Bright/Bold', 'reading reserves', 'spot tasking', 'low contrast

vision' and types of field restrictions do not improve a person's visual metrics but help them appreciate how to adjust to the challenges. The patient and family are in control. Appendix 2 gives examples of customised Fact Sheets the author finds valuable for patient education (others available on the website www.aaronoptometrists.com).

Caution is needed prescribing low vision devices before the patient has necessarily accepted the problem (Silver 2007). However their acceptance is far more likely if introduced as a normal enhancement of vision rather than a low vision device. Anecdotal examples of spot tasks, such as reading coloured packets, are excellent in opening communication about real life difficulties with which many practitioners can also identify.

Demonstrating the effect of high reading additions also introduces relative distance magnification, its working distance implications and potentially a discussion on alternative solutions to activities of daily living.

It is crucial the patient realises they are not alone. A caring and understanding manner may ensure the optometrist is the only professional necessary to fulfil the patient's visual and emotional needs; an essential adjunct is to ensure the patient is aware of, and can access, the many support groups.

Conclusion

Unlike the prescriptive and arbitrary definitions of Visually Impaired and Severely Visually Impaired the term 'Low Vision' has far more relevance to how many older people struggle with activities of daily living. Jackson (2007) defines 'Low Vision' as 'vision that, when corrected by optimal refractive correction, is not adequate for the patient's needs'. If the initial diagnostician identifies a short fall between attainable visual function and desired outcome the educational and empowerment process must commence.

Very few older visually impaired patients are aware of low vision services (Casten et al 2004); patients with evolving visual impairment less so. This carries a societal cost as well; poor vision is clearly linked to falls (Tromans and Martin 2011, Vu et al 2005), hip fracture and increased risk of mortality (Vu et al 2005).

These 'Potential Service Users' must be given representation.

Rovner and Casten (2008) suggest optometrists should evaluate vision and magnification needs and, crucially, provide the Occupational Therapist with an initial care plan. Taylor et al (2007) proposed the promotion and funding of regular eye exams as integral to a cost effective low vision intervention.

The clinical roles of optometry are essential to implement a community led low vision service; the profession must not allow its clinical relevance be masked by its' over represented commercial image. Policy makers must be made aware of the value of Clinical Optometry.

Appendix 1: An example of a Visual Disorder and Functional Impact Fact Sheet.



STROKE

Blind patches :

mobility and safety

Low vision may not necessarily show as reduced ability to read the letters on a sight chart. Many conditions cause blind patches in the general field of vision. Depending on how the field loss presents dictates the sort of disability the patient might experience and also fundamentally dictates the sort of rehabilitation required.



Simply checking vision on a high contrast vision chart tells us very little about how the patient will perform and maintain confidence and independence.

Stroke :

loss of half the field.

Stroke can cause loss of half of your field of vision, right or left. People sometimes think they have lost right or left eye vision. In reality you lose half right eye field of vision and half the left eye field.

This makes seeing approaching dangers difficult.



Imagine trying to get around a supermarket with people dashing from left or right across aisles when you can't see them coming. In these situations it can be handy to

walk with a friend on your non-seeing side. You can see dangers on your good side and your friend protects you on your non-seeing side.

When talking to someone with this sort of field loss it is best to stand on their seeing side so they can see as well as hear you. Remember, a lot of communication is visual, don't be an unseen voice.

Low vision, partial sight, visual impairment, and even subnormal vision (a term whose use is now deprecated) are synonyms for the same state: reduced visual acuity, which even with the best optical correction provided by regular lenses still results in a visual performance on a standardized clinical test (such as a Snellen letter chart) which is less than that expected for a patient of that age. The definition does not include those who are monocular; these patients have different problems and are rarely considered in this category. The term also implies that some form of vision (that is, the ability to recognize shapes, no matter how close they must be placed) remains, and that vision is not simply confined to light perception. 'Regular lenses' in this context include required distance refractive corrections and reading additions up to +4.00DS. The latter forms a somewhat arbitrary dividing line, whose origin is historical: it has been assumed that the closest distance at which a patient would normally read is 25 cm, for which the normally sighted presbyope would require a +4.00DS addition.

Low vision, partial sight, even subnormal vision (a deprecated) are synonyms for visual acuity, which correction provided by visual performance on (such as a Snellen letter expected for a patient of not include those who have different problems in this category. The term vision (that is, the ability matter how close they must that vision is not simply of 'regular lenses' in this distance refractive correction up to +4.00DS. The latter arbitrary dividing line, which has been assumed that the patient would normally read normally sighted presbyope +4.00DS addition.

Reading fluency would be poor as you lose the end or beginning of any line, even though individual words can be seen.

Appendix 2. Examples of customised Patient Information Leaflets – Big/Bright/Bold and Low Contrast Vision

Comfortable Reading

Comfortable reading depends on a combination of factors, not just spectacles. A good print size, coupled with adequate light and good print contrast (the level of black on white and sharpness). We must also read within our reserves.

RESERVES

None of us can read for any length of time at our limits; that is the smallest size print you can possibly see. The analogy is if you try to lift something very heavy. You might be able to lift it for a minute but you couldn't sustain it for an hour. Likewise we could never expect you to read at your limit for more than a moment.

As a general rule, if you double the size of print which represents your limit, then you should be able to read with comfort. So we push you to your limits, not because we expect you to read at that level but because it gives an idea of the print size you should be able to read comfortably. If you can read N5 print then N10 should be comfortable - this would allow easy reading for most daily tasks. If, because of cataracts your limit is only N10 then nothing smaller than N20 would be easy to read. This would make most reading tasks very difficult. To make things easier we need to think:

BIG, BRIGHT, BOLD.

BIG If we can magnify the image we will be more likely to ensure it falls within your reading reserves. We can do this by making the spectacles stronger, but this carries the disadvantage of having to hold the book closer. It can be done with magnifiers, often with a light (helps 2 of the 3Bs - Big & Bright!). Finally we can simply use larger print. If you don't need to read anything too small it is often easier to have a lower power allowing a longer, more comfortable working distance.

BRIGHT Within our own homes this is the aspect of vision we can most control. Light must never be underestimated and is as important as correct spectacles. No matter how good the glasses are, without light you will struggle. The light must be directed, so that it is over your shoulder onto the work. Ceiling lights, if they are not behind you, are less adequate. Enhanced light can often push your limits to smaller levels, say from N8 to N5, which suddenly allows newsprint to be read.

BOLD Very little of what we read is high contrast (pure black on pure white with sharp edges). Think about how much more difficult it is to read coloured labels on food containers. It is impossible to control contrast (newsprint comes the way newsprint comes). So.....

You must always think of spectacles as fulfilling your general needs but certain **SPOT TASKS**, such as reading ingredients on packets can sometimes be easier simply by using a small magnifier.





FACT SHEET

High versus Low Contrast Vision

When we test vision in the practice we are testing HIGH contrast vision - That is Black on White with sharp edges. That is easy and doesn't always tell us a lot as to how you function in the real world.



In the real world we have to adapt to a much broader range of visual conditions - poor light, fog and so on.



Low Contrast Chart - the letters get fainter not smaller

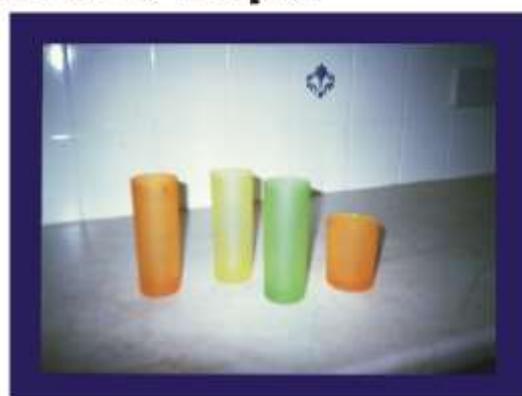
A lot of eye conditions may affect 'low' contrast vision much more profoundly than 'high' contrast. Someone may see the black and white letters of a standard test chart quite well but still struggle with day to day activities in a way that many of us will not understand. We use 'Low' Contrast charts to assess this aspect of vision.

The photos in this leaflet try to show how improving contrast can aid mobility and safety.

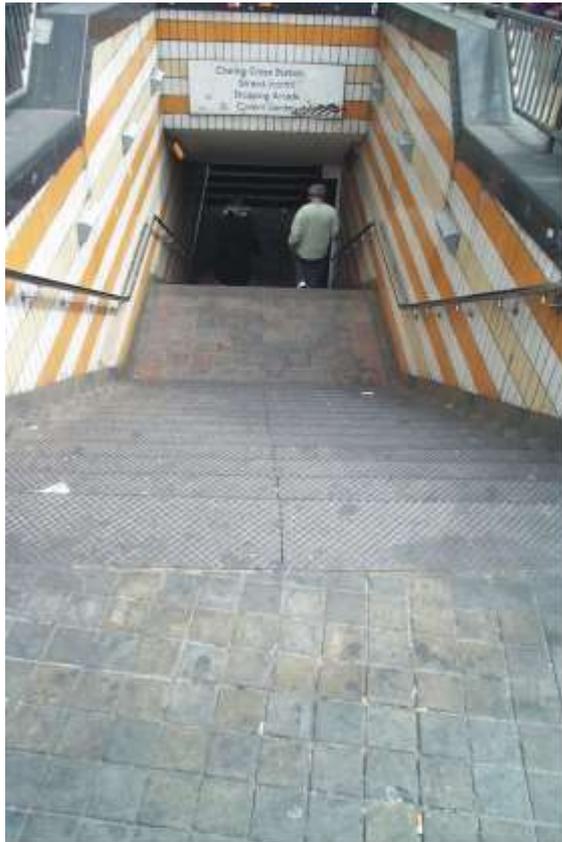
Improving contrast around the home can help.



The photos above show the black hob and bright pans contrasting against the white cooker, while the red around the cupboard helps prevent hitting your head. The directed light also helps.



Higher contrast implements can help enormously. Bright coloured cups, plates, cutlery or a black kettle will be much more visible against a white bench. At the very least it may prevent spilling something, but it could also stop hot fluids scalding. Other safety items could include a black light switch on a white wall or high contrast cooker dials.



Going down stairs in particular can be a nightmare as the edges become lost. Bright strips along the stair edges make them more visible. In these photos the stairs themselves are poorly contrasted.



Fortunately the hand rails are high contrast against the lighter coloured tiles. Always hang on to the rail. Other low contrast dangers are concrete curbs and flagstones.

Disability Glare & Contrast.

Discomfort Glare

This is the sort of glare we all experience on a bright sunny day when the sun is high in the sky.

Sunglasses will easily relieve the problem.

Disability Glare

This is far more of a problem.

Vision is reduced by reducing contrast.

An example of 'Disability Glare' would be looking through a dirty or misted windscreen. It is as if we are viewing through a veil, the whole scene looks grey and washed out. Sunglasses will not help this sort of glare.



The only solution is to eliminate the source of the glare, clean the windshield or put the sunvisor down.

Sources of disability glare could be:

Sun low in the sky in winter

Headlights or other lights directed at you.

Reflections from glossy pages

Sun streaming in a window



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