

“I can see fine. Why do I need my eyes tested?”

BY JANET POOLEY

Are routine eye examinations really necessary? The author asks whether frequent appointments in low-risk patients with normal results are actually cost-effective.

“It’s recommended that most people should get their eyes tested every two years.” [1] This message is widely publicised by the NHS, many national and local advertising campaigns and during National Eye Health Week. There’s almost always caveats and the NHS advice, for example, does state “for most people” not all, but is that helpful? Is there evidence to support this advice? Are we ensuring that those who need to have their eyes examined attend, and that we are not over-testing those who do not require any such assessment? Worse, are we discouraging those who should be seen more frequently from attending?

In response to a move away from the over medicalisation of our lives [2,3] it is interesting to consider how frequently a ‘routine’ community eye test or eye examination is required. Is there a need to advise all patients to attend on a regular basis throughout their lives, or should consideration be given to targeting those most likely to have problems? Should routine eye testing of younger asymptomatic patients be recommended?

Reduced Vision

Patients often attend to have their eyes examined because of reduced vision. This is understandable. It is one of the main purposes of an eye test. When there is no perceived problem and the patient is asymptomatic there is more uncertainty for the patient. The fact that visual loss can be gradual may also not be perceived by the patient, or when the loss is monocular. And there is a large group of the population where there may be a reduction in vision, but either they are unable to communicate that as a difficulty, or life is too chaotic for a reduction in vision to be much of an issue alongside other challenges.

The legal requirements of an eye test

It has to be understood that the eye test in the UK has a dual purpose and that this is enshrined in law. The Opticians Act 1989 [4] requires that an eye test both identifies a refractive error and assesses the health of the eyes. The optometrist or ophthalmic medical practitioner has a duty, under General Optical Council (GOC) rules [5] set out as part of this legislation, to issue a spectacle prescription following the examination, or a statement advising the patient that they do not require a prescription. Further, that an internal and external examination is carried out and “such additional examinations as appear to be necessary to detect signs of injury, disease or abnormality in the eye or elsewhere” [5]. This link has long existed in the UK and supports the case finding function of the eye examination, rather than the test simply identifying the refractive error of the patient as it would in many other European countries [6].

In most parts of the UK the eye test has remained fundamentally unchanged over many years. The trial frame may have been replaced with a phoropter head, retinoscopy replaced with an autorefractor and you can have a retinal image taken, but fundamentally the test is unchanged. The main exception is the NHS funded eye examination in Scotland [7], where there is the expectation of a more in-depth assessment as well as the eye test. For example, patients aged

over 60 years are routinely dilated, and slit-lamp biomicroscopy is conducted for internal and external examinations.

Given the dual nature of the test, the appropriate frequency should be considered from both the perspective of a correction of refractive error and the opportunity to identify pathology.

Children

Early years development assessments usually fall outside the remit of community optometry practices for most babies or very young children. The exception is where there is a family history of early refractive error and parents are keen to ensure that any abnormalities are identified early, even before the national screening service assessments of children aged four to five years nationwide. Attendance is also stimulated by anxiety about possible squints, observations there may be visual problems, behavioural issues or recurrent ocular infections.

Children get better at expressing symptoms of blurred vision, eye strain and headaches as they get older, but a gradual onset of visual symptoms is not always easily identified. The increase in myopia, often requiring rapid refractive change, is a clear driver to attend for an eye test especially around puberty. Parents should be alert to children complaining about blurred distance vision, although it is often schoolteachers who become aware that a child is not seeing the board. Tiredness from too much close work may indicate a latent hyperope, so more frequent routine eye examinations are important for children. Although the risk of pathology is extremely low, uncorrected refractive error can impede academic performance; six-monthly to annual appointments can be required, especially during growth spurts [8].

Adults under 40 years

Those adults under 40 years without a refractive error are less likely to become ametropes and they are also at low risk of developing any pathology. What often encourages this age group to attend for examinations are symptoms relating to occupational issues including headaches, irritable eyes and general eye strain. Where there are systemic risk factors, and diabetes is a good example, then a regular retinal examination is covered by the national diabetic retinal screening service [9].

The Canadian Association of Optometrists recommends that low risk patients aged 20 to 39 years should undergo an eye examination every two to three years [10]. This is mirrored by the advice from the US, where the American Optometric Association [11] states that asymptomatic / low-risk patients should attend for an eye examination at least every two years. There appears to be no published evidence identifying any benefit from an eye examination for these asymptomatic patients in this age group, and it is unclear what evidence supports these recommendations.

Adults 40 to 60 years

The American Academy of Ophthalmology recommends that adults with no signs or risk factors for eye disease should receive a baseline

comprehensive eye evaluation at age 40 [12]: "Your ophthalmologist will tell you how often to have follow-up exams based on the results of this screening." An optometrist is well placed to do this in the UK (as they are in the US). From the age of 40 years the risk of developing ocular conditions increases. This is coupled with the onset of presbyopia which may encourage patients to attend for an examination anyway. More case finding assessments enter the examination at this stage (if not a few years earlier), and if there are no other risk factors, then there is evidence to support a biennial examination [8].

An Australian study (2004) [13] reviewed baseline data from a large cohort of patients over 40 years and changes after five years. They concluded that health promotion messages should target those who notice a change in vision and those at higher risk, e.g. those with diabetes or a family history of eye disease, rather than blanket targeting routine examinations for all patients. They concluded that frequent routine eye examinations of those with normal examination results will have a low yield and may not be cost-effective. Such advice could be considered in the UK.

Older patients

With advancing years, the prevalence of ocular pathology obviously increases. Coupled with systemic co-morbidities, family history and some lifestyle choices, there is an ever-increasing risk of developing disease and early stage disease can exist and progress without the individual being aware of the problem until much vision is lost. Glaucoma is a classic example. Whilst changing and failing visual acuity is key, the opportunity to identify disease at an early stage is important.

Though regular examinations may be required, patients are all different and a blanket recall based on age alone should not be used. For example, an otherwise healthy 68-year-old who is active, perhaps still working, and with no other reasons to be concerned is very different from a 68-year-old who smokes, has cardiovascular disease and a family history of glaucoma. Whilst the former patient may comfortably be recalled in two years with advice to return if they have any concerns, the latter patient would more likely need an annual assessment, if not sooner, especially if early ocular changes were observed. A single national message about a biennial eye examination may be detrimental to this patient.

Reminders to attend

Patients who are happy with their vision are more unlikely to attend for an eye examination. A recall letter helps to remind patients to attend, but care should be taken when recalling patients, ensuring the recommendation is based on individual need; routine eye examinations are important for many patients but not for all.

Patients should be clearly advised to have for an eye examination if they notice a change in their vision; they should also not wait for their routine recall if they notice a sudden visual change. It is wise to always

advise patients to return sooner if they have problems with their vision. Targeted awareness towards older patients, those with a relevant family history or systemic condition, and more vulnerable patient groups, could be valuable in the early identification of ocular disease.

References

1. NHS England. NHS Services and Treatments, 2019: <https://www.nhs.uk/common-health-questions/nhs-services-and-treatments/how-often-can-i-have-a-free-nhs-eye-test/>
2. Welsh Government and NHS Wales. Prudent Healthcare – Securing Health and Well-being for Future Generations, 2016: <http://www.prudenthealthcare.org.uk/wp-content/uploads/2016/02/Securing-Health-and-Wellbeing-for-Future-Generations1.pdf>
3. Scottish Government. The Chief Medical Officer Annual Report 2014–2015 Realistic Medicine, 2016: [https://www.gov.scot/binaries/content/documents/govscot/publications/progress-report/2016/01/chief-medical-officers-annual-report-2014-15/documents/chief-medical-officers-annual-report-2014-15/govscot%3Adocument/00492520.pdf](https://www.gov.scot/binaries/content/documents/govscot/publications/progress-report/2016/01/chief-medical-officers-annual-report-2014-15/documents/chief-medical-officers-annual-report-2014-15/chief-medical-officers-annual-report-2014-15/govscot%3Adocument/00492520.pdf)
4. The Opticians Act, 1989: <http://www.legislation.gov.uk/ukpga/1989/44/contents>
5. The Sight Testing (Examination and Prescription) (No. 2) Regulations, 1989: <https://www.legislation.gov.uk/uksi/1989/1230/made>
6. Institut für Betriebswirtschaft und Volkswirtschaft, Comparative Analysis of Delivery of Primary Eye Care in Three European, 2011: <https://www.ecoo.info/wp-content/uploads/2012/07/WASEMstudyWebsite.pdf>
7. Scottish Government. National Health Service (General Ophthalmic Services) (Scotland) Regulations, 2006: <http://www.legislation.gov.uk/ssi/2006/135/contents/made>
8. College of Optometrists. Guidance for Professional Practice, 2017: <https://guidance.college-optometrists.org/home/>
9. United Kingdom Government. Diabetic eye screening: programme overview, 2014 (updated 2017): <https://www.gov.uk/guidance/diabetic-eye-screening-programme-overview>
10. Canadian Association of Optometrists. Frequency of Eye Examinations, 2014: <https://opto.ca/health-library/frequency-of-eye-examinations>
11. American Optometric Association. Recommended Eye Examination Frequency for Pediatric Patients and Adults: <https://www.aoa.org/patients-and-public/caring-for-your-vision/comprehensive-eye-and-vision-examination/recommended-examination-frequency-for-pediatric-patients-and-adults>
12. American Academy of Ophthalmology. Get an Eye Disease Screening at 40, 2019: <https://www.aoa.org/eye-health/tips-prevention/screening>
13. Taylor HR, Vu HT, McCarty CA, Keeffe JE. The need for routine eye examinations. *Invest Ophthalmol Vis Sci* 2004;45:2539-42.

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SECTION EDITOR



Dr Janet E Pooley,

Programme Director, NHS Education for Scotland.