THE ROYAL COLLEGE OF OPHTHALMOLOGISTS

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The views expressed are those of the author.

The NHS Diabetic Eye Screening Programme: New Common Pathway.

The success of the NHS Diabetic Eye Screening Programme depends upon ensuring the early identification and appropriate treatment of patients with sight-threatening retinopathy. Crucial to this is the relationship between screening and ophthalmology. Hence, ophthalmologists working in medical retina clinics need to know how the screening programme works and be aware of the forthcoming changes to the common pathway for diabetic eye screening.

Background: The four UK nations were the first countries in the world to introduce systematic national screening programmes for diabetic retinopathy. The implementation of screening in England was announced in the 2003 Delivery Strategy for the National Service Framework for Diabetes and, by 2008, local retinal screening programmes covered the whole country. Four years on, annual screening for diabetic retinopathy is an established and essential component of effective healthcare for all people with diabetes aged 12 and over across the UK.

Collaboration between the screening programmes for diabetic retinopathy in England, Scotland, Wales and Northern Ireland is an integral part of the UK National Screening Committee's strategy. The four UK nations continue to work together closely in a number of areas, including a current evaluation project to determine the optimal screening intervals, particularly for low risk patients who have no diabetic retinopathy.

Retinal screening in England is overseen by the NHS Diabetic Eye Screening Programme (NDESP) and delivered by more than 80 local programmes. England has over 2.5 million people aged 12 and over with diabetes with a 5% (120,000) increase every year. NDESP has a challenge to ensure a consistent high quality annual screening service as well as to ensure a smooth and safe transition for diabetic eye screening into the new commissioning structures in England following the NHS reforms effective from April 2013.

Significant changes are being made to the service – most importantly, new grading criteria and a development of a new common pathway to be implemented in a phased roll-out across England. These changes will have implications for everyone involved in the service, from ophthalmologists and optometrists to screening providers and commissioners.

Screening delivery: Diabetic retinopathy is the most common cause of sight loss in the working age population[1] and it is estimated that screening has the potential to save more than 400 people per year in England from blindness[2].

All people with type 1 or type 2 diabetes are at risk of developing sight-threatening retinopathy. The most at risk are those with long duration and/or poorly controlled diabetes and hypertension.

Screening using digital photography facilitates timely treatment of patients by detecting sight-threatening retinopathy early. It also gives patients and GPs information about very early micro-vascular damage so as to prompt optimum control of diabetes to help reduce progression of retinopathy as well as other morbidities related to diabetes.

Screening in England is organised and delivered by a range of providers as per local commissioning arrangements. The local programmes organise the call and recall process. Various models of screening exist e.g. screening in static units using cameras in a hospital or diabetes centre or mobile clinics (GP surgeries, screening vans), or optometry-based services by accredited optometrists. All four UK nations use the training and accreditation package for screeners offered in conjunction with City and Guilds[3], which awards a Level 3 Qualification in Diabetic Retinopathy Screening that consists of nine learning units.

Each of the four nations has some variation in screening protocol and grading, but in general, the photographs are graded and the results sent to the patient and their GP within six weeks. Depending on the results, patients are either recalled for annual screening, invited back for more frequent surveillance or referred on to hospital eye services. During 2011–12, NDESP invited 2,362,000 people in England for screening and 1,911,000 of these attended[4] – an overall uptake rate of over 80%.

Quality assurance: Local programmes in England deliver screening in line with NDESP's national service objectives and quality assurance standards[5]. These standards were revised in 2010–11 to improve the quality, collection and comparison of data so as to reduce variability and to facilitate identification of local issues and to improve standards.

All programmes carry out their own internal quality assurance checks by regularly monitoring their screening data. Programmes are also held accountable through external quality assurance (EQA) visits and the submission of key performance indicators (KPIs) and annual reports. EQA visits play a key role in monitoring local programme's performance and provide clear action plans after each visit to address any issues. The national QA team provides support and advice to programmes and liaises with SHA screening leads whenever there are patient safety concerns.

New common screening pathway: The NDESP has identified that significant variation currently exists between programmes in terms of grading and referral processes as well as commissioning as to what activities are part of screening and what activities are part of diagnostic and treatment services. To address these issues, a new grading criteria and common pathway for diabetic eye screening[6] will be implemented in phases across England during 2013–14.

The new pathway and grading criteria will ensure a consistent approach to the commissioning and delivery of screening. From April 2013, national screening programmes will be commissioned by the NHS Commissioning Board (NHS CB) on behalf of Public Health England while diagnostic and treatment services will be commissioned by clinical commissioning groups (CCGs). The NHS CB and CCGs will have separate budgets, so it is vital there is clarity about who is commissioning which part of the service.

NDESP will support local programmes during the implementation of the new pathway and grading criteria to ensure patient safety is not compromised. The roll-out of a consistent pathway nationwide will also reduce variation in data reporting and enable the quality of screening services to be monitored and compared more effectively and consistently.

Key elements of the new common screening pathway include:

- All local programmes to provide primary, secondary and arbitration grading
- Annual recall patients will be the only patients retained in the screening service
- It will be possible to manage patients who:
  - require more frequent monitoring, (e.g. three/six monthly) or screening in pregnancy photography during pregnancy, in new photographic surveillance clinics (out of routine screening pathway)
  - have unassessable images in slit lamp biomicroscopy surveillance clinics
- All programmes will move to features-based grading. Graders will not be able to override a grade derived from correctly identified features.

Some clinicians have found that the current R1M1 referral threshold leads to unnecessary referrals and pressures on hospital eye services. The new pathway will enable many of these patients to be kept in a surveillance service delivered by the screening programme without the need for a referral. A consultant ophthalmologist with medical retina experience will supervise patients within these surveillance clinics according to local protocols and based on best evidence. In future, the NHS CB will commission both photographic and SLB surveillance as part of the screening pathway but this activity will be recorded separately from the annual screening recall activity.

Provision of optical coherence tomography (OCT) is not part of the new pathway but can be added to the photographic surveillance screening service if commissioned by the local CCGs. Guidance on how surveillance clinics should be set up and run will be provided to local programmes and commissioners once finalised.

The new pathway changes clarify circumstances in which patients can be suspended or excluded from screening. Patients under care of ophthalmology for diabetic retinopathy should be suspended and not be invited for annual screening. The local programme's clinical lead or a designated clinician will assess patients who are considered to have an ungradable image according to NDESP's exclusions and suspensions guidance.

New grading criteria: The introduction of features-based grading will emphasise the relationship between features and screening outcomes.
The changes to the grading criteria include:

- Defining the R2 pre-proliferative level
- Defining groups of exudates
- Introduction of a stable treated R3 grade (R3s)
- Simplification of image quality into adequate and inadequate.

All programmes will have to provide primary, secondary and arbitration grading. All images with referable disease should be reviewed by the clinical lead or designated senior grader, to decide a Referral Outcome Grade that provides the referral outcome.

NDESP is working closely with software providers to ensure that new screening software to be installed will be fit for purpose enabling local programmes to implement the new pathway and grading criteria. Each programme will be given an individual timeline for the software and pathway implementation. Until that time, NDESP has instructed local programmes to continue to provide their existing 'steady state' service affirming patient safety to be the top priority.

For information on NDESP visit:
www.diabeticeye.screening.nhs.uk or
email: *dr.screening@nhs.net.*

References
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