

Extending diabetic eye screening intervals for people at low risk of developing sight threatening retinopathy: summary

Recommendation:

The UKNSC recommends the following modification to the Diabetic Eye Screening Programme.

- That the diabetic eye screening programme extends screening intervals for people with low risk of sight loss from one year to two years.
- That the current screening interval for people with a high risk of sight loss should be retained.

There is no proposal to change other aspects of the programme.

The proposal is based on the four attached documents. These are:

Appendix 1: Publication based on the findings of the Four Nations Diabetic Retinopathy Screening Intervals Project Study Group

Appendix 2: Rapid review of the literature: Would changing diabetic eye screening intervals from the current annual recommendation lead to changed clinical outcomes?

Appendix 3: Rapid review of the literature: Does a change in screening interval lead to a subsequent change in uptake?

Appendix 4: Cost utility analysis

Summary

About five in 100 (5%) people in the UK have a diagnosis of diabetes. Most, 90 in 100 (90%) have type 2 diabetes (T2DM). The number of people with T2DM is rising because more people are living longer; are obese; have low levels of physical activity and come from ethnic groups at higher risk. The number of people with T2DM is also growing because of increased levels of testing e.g. the introduction of 'health checks'. The number of people with Type 1 DM is also rising by around 5% per year, for reasons which remain unknown.

Diabetic retinopathy is a complication of diabetes and is one of the leading causes of sight loss and blindness across the world. People living with diabetes may be unaware they have the problem before it is too late. Screening services were established in the UK to detect retinopathy so it can be found and treated before it becomes sight threatening.

Annual screening for changes in the blood vessels at the back of the eye (diabetic retinopathy) in people with diabetes is recommended for all those with diabetes aged 12 and above. Those found to have a problem (sight threatening diabetic retinopathy (STDR) are referred on for further tests and, if required, treatment. Treatment of STDR with laser therapy reduces the risk of vision loss.

Screening for diabetic retinopathy was introduced at annual intervals for pragmatic and administrative reasons. However the evidence base to support this interval was very limited. In order to ensure that people being invited for screening get the best care, the diabetic retinopathy screening programmes across the four UK countries carried out a formal audit on people screened to determine whether there are some groups who could safely be screened less often. Findings from the audit were published in November 2014 (Leese et al 2014 - appendix one) and the outcome of a linked literature review (appendix two and three),

support the view that there is a sizeable group of people with diabetes who have no retinopathy after two successive screens. These people are thought to be at low risk of developing sight threatening retinopathy and could safely be screened less often. Reducing the number of screening episodes for selected patients would also release capacity that can be used to invite the increasing number of people with diabetes. Those people who are at low risk will also not have the inconvenience of having to attend every year.

On the basis of these documents the UK National Screening Committee is proposing to extend screening intervals from one year to two years in patients at low risk of developing sight threatening diabetic retinopathy (STDR).

Evidence presented to UK National Screening Committee

An observational study (appendix one) was undertaken linking retinal grading result data from seven diabetic retinopathy screening programmes across the U.K. (Scotland, Wales, Northern Ireland and four programmes from England) for the period 2005 and 2012. Patients with absent, or background retinopathy, were followed up for progression to the point at which referable retinopathy and treatable retinopathy (proliferative retinopathy) was identified.

The study was the largest of its kind ever undertaken. In total 354,549 patients were observed for up to 4 years during which 16,196 patients progressed to referable retinopathy:

- in patients with no retinopathy in either eye less than 0.3% progressed to either referable retinopathy or proliferative retinopathy (treatable eye disease) during a two year period in which there were two successive annual screening episodes
- in patients with bilateral background retinopathy 13 – 29% progressed to referable retinopathy and up to 4% progressed to proliferative retinopathy (treatable eye disease) in a two year period in which there were two successive annual screening episodes.
- in patients with no diabetic retinopathy at baseline a small proportion, 0.4% to 1.3%, progressed to referable retinopathy in a two year period in which there were two annual screening episodes

The outcome of the study indicated that it may be possible to stratify patients into groups at high and low for risk of progression to both referable retinopathy and proliferative retinopathy, according to baseline retinal criteria. The practical conclusions in terms of programme policy are that:

- screening intervals for the different groups of patients could safely be modified according to this risk, and that
- extension of the intervals would apply to low risk patients only. No amendment to the screening intervals for high risk patients is being proposed.

The literature review (appendix 2) concluded that the published evidence, although quite limited in some respects, confirmed the findings of this UK study.

Cost Utility – value of the proposed change

A cost utility assessment (appendix four) was carried out by the Health Improvement Analytical Team of the Department of Health. The assessment concluded that it is cost effective to increase screening intervals from one year to two years for low risk diabetic

patients, defined as those that are graded as having no background retinopathy in either eye and to re-deploy the appointments in efforts to increase uptake in the eligible diabetic population.

Outcome of UK NSC discussion

The UKNSC considers that the documents supported the proposal to modify the screening intervals. However the Committee also noted that there are a number of important factors that must be in place before the modified intervals could be implemented:

- Accurate and consistent grading should be taking place in programmes.
- Robust data and IT processes should be in place to ensure the safe identification and management of patients along a pathway.
- Vital stakeholder and service user communication.

The UK Four Nations Diabetic Retinopathy Screening Group continues to work together on the proposal for risk based screening intervals. The group is agreed that different approaches to implementing a change would need to be put in place across each country.

The Group has agreed that the points raised by the UKNSC should provide a set of principles to guide implementation in each country. However the need for variation on some matters is acknowledged and country specific implementation plans are being developed. These will be developed and shared with the relevant stakeholders in each country.