



NHS Diabetic Eye Screening Programme

Information for health professionals

All people with diabetes aged 12 and over should receive regular eye screening as one of their essential free NHS checks and services.

The NHS Diabetic Eye Screening Programme aims to reduce the risk of sight loss by the early detection and treatment, if needed, of diabetic retinopathy and maculopathy.

Structure and delivery

The screening process

Screening is offered every year to people with diabetes (type 1 and type 2) aged 12 and over

Each person should receive at least one invitation and one reminder to attend



Visual acuity test



Mydriatic agent applied to dilate the pupils



Digital photographs taken of both retinas



Images graded for signs of diabetic retinopathy and diabetic maculopathy using the RxMx grading system



Screening results sent to the patient and their GP within six weeks

The NHS Diabetic Eye Screening Programme is coordinated and led nationally as part of Public Health England. Screening is delivered locally by NHS and private providers in line with national quality standards and protocols.

All patients on the GP diabetic register aged 12 and over should be enrolled in their local eye screening programme. The local service organises the call and recall process, screening and surveillance clinics, results letters and hospital referrals. Result letters are sent to the patients and their GPs.

Prevalence

- around 4,200 people are at risk of blindness caused by diabetic retinopathy in England every year
- around 1,280 new cases of blindness are caused by diabetic retinopathy in England every year

Risk factors

All people with type 1 or type 2 diabetes are at risk, whether their diabetes is controlled by diet, tablets or insulin. Risk is increased by:

- length of time the person has had diabetes
- poor control of blood sugar
- high blood pressure

'Diabetes in remission' and 'Diabetes resolved' codes

- patients should be screened annually for life if there has ever been a definite diagnosis of diabetes, excluding gestational diabetes
- patients in remission – for example due to an intervention such as bariatric surgery – should be classified 'Diabetes in remission', not 'Diabetes resolved'. This ensures they will still be invited for screening
- patients will not be invited for screening if they have a read code of 'Diabetes resolved'. This code should not be used for patients whose diabetes is in remission due to an intervention
- GPs should review all patients with a 'Diabetes resolved' read code and amend to 'Diabetes in remission' as appropriate

Screening during pregnancy

Pregnant women with type 1 or type 2 diabetes are offered additional tests for diabetic retinopathy at, or soon after, their first antenatal clinic visit and also after 28 weeks of pregnancy. This is because there are risks to both mother and baby associated with diabetic retinopathy.

Pregnant women who develop gestational diabetes are not offered screening.

The RxMx grading system

R0	= No retinopathy
R1	= Background retinopathy
R2	= Pre-proliferative retinopathy
R3A	= Active proliferative retinopathy
R3S	= Stable proliferative retinopathy
M0	= No maculopathy
M1	= Maculopathy

Photographs of the patients' retinas taken at screening are graded according to national protocol using the RxMx grading system definitions (left).

A lead clinician in each local screening service determines the final grade and outcome for the patient. The patient is then either returned to annual screening, referred to a digital surveillance clinic for more frequent monitoring or referred to hospital eye services for more tests and possible treatment.

Screening outcome

Role of primary care

No retinopathy or maculopathy

Possible result:

R0M0

Risk of progression:

Less than 1 in 50 chance of referable eye disease within 3 years

Follow-up:

Reinvited for routine annual screening in 12 months' time

Continue to advise patient on good management of diabetes, including blood glucose, blood pressure and lipid levels.

Background retinopathy in one eye

Possible result:

R1M0
in one eye

Risk of progression:

Just over 1 in 20 chance of referable eye disease within 3 years

Follow-up:

Reinvited for routine annual screening in 12 months' time

Ensure patient attends routine diabetes checks at GP practice.

Background retinopathy in both eyes

Possible result:

R1M0
in both eyes

Risk of progression:

More than 1 in 4 chance of referable eye disease within 3 years

Follow-up:

Reinvited for routine annual screening in 12 months' time

Provide additional advice on good management of diabetes, including blood glucose, blood pressure and lipid levels.

Referral to digital surveillance clinic

Possible results:

R2
M1
R3S

Follow-up:

Screened in surveillance clinic every 3, 6 or 12 months depending on progression of disease.

Ensure patient attends routine diabetes checks.

Invite for additional checks if diabetic control indicates.

Refer to diabetologist if indicated.

Referral to hospital eye services

Possible results:

R3A
R2
M1

Follow-up:

Referred by the local programme to hospital for diagnosis, possible follow-up tests and treatment. Patients are suspended from screening by the local programme while under the care of hospital eye services for diabetic eye disease. They are returned to routine screening or surveillance after discharge.

Information leaflets

- all people with diabetes aged 12 and over receive a copy of the leaflet, **Your guide to diabetic eye screening**, with their screening invitation
- patients with background retinopathy receive a copy of the leaflet, **Your guide to diabetic retinopathy**

- patients referred to digital surveillance or hospital eye services receive a copy of the leaflet, **Closer monitoring and treatment for diabetic retinopathy**

Information online

- www.nhs.uk/diabeticeye
- www.gov.uk/topic/population-screening-programmes/diabetic-eye