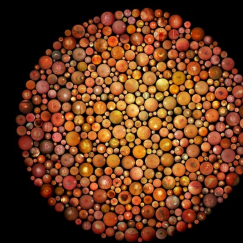


Diabetic Retinopathy

Patient Information Leaflet

MEDICAL RETINA



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KEY POINTS

- Diabetic retinopathy is damage to the retinal blood vessels caused by diabetes - it is a leading cause of preventable sight loss in working-age adults.
- The two main sight-threatening complications are diabetic macular oedema (DMO) and proliferative diabetic retinopathy (PDR).
- Both can be present without any change in your vision - regular screening is essential.
- Good control of blood sugar, blood pressure and cholesterol is the single most effective protection against diabetic eye disease.
- Both conditions are treatable, and early treatment produces the best outcomes.

What Is Diabetic Retinopathy?

The retina - the light-sensitive lining at the back of the eye - depends on a network of tiny blood vessels to function. Persistently raised blood sugar damages these vessels over time, causing them to leak, become blocked, or grow abnormally. This is diabetic retinopathy.

Diabetic retinopathy progresses through stages of increasing severity. In its earlier stages it may cause no symptoms at all. As it advances, vessels can become blocked, starving areas of the retina of oxygen - a process called ischaemia. This oxygen deprivation is the main driver of the two complications most likely to threaten your sight, described below.

Diabetic Macular Oedema (DMO)

Damaged vessels at the centre of the retina (the macula) leak fluid, causing swelling. Because the macula provides the sharp central vision used for reading and recognising faces, this blurs central vision. DMO can occur at any stage of retinopathy.

Proliferative Diabetic Retinopathy (PDR)

When areas of retina are starved of oxygen, the eye responds by growing new abnormal blood vessels. These vessels are fragile and prone to bleeding into the eye. In advanced cases they can cause tractional retinal detachment. PDR represents the most advanced stage of diabetic retinopathy.

Risk Factors

Anyone with type 1 or type 2 diabetes can develop diabetic retinopathy. The risk increases with the duration of diabetes - around one in three people who have had diabetes for 20 years or more will develop DMO. The following factors also increase risk:

- Poorly controlled blood sugar (HbA1c)
- High blood pressure
- High cholesterol
- Smoking
- Pregnancy

Large clinical studies have consistently shown that people who maintain good control of their blood sugar, blood pressure and cholesterol, and who do not smoke, are significantly less likely to develop sight-threatening diabetic eye disease. Managing these risk factors is the most powerful step you can take to protect your vision.

Detection and Screening

Diabetic retinopathy can be present without any change in your vision, which is why the annual diabetic eye screening programme - offered free to all people with diabetes in England - is so important. Digital photographs of the retina can detect early changes long before symptoms develop. If screening finds changes that need further assessment, you will be referred to a medical retina clinic.

Once you are under my care, your screening is covered by the clinical monitoring I provide. When treatment is complete and you are discharged, it is important to resume your annual screening appointments.

Assessment at Clinic

At each appointment I will test your vision and carry out a dilated examination of the retina. Drops will be used to widen the pupils - these temporarily blur your vision for a few hours, so please do not drive to or from the appointment. An OCT scan will be performed at every visit - this is a quick, painless cross-sectional scan of the macula that detects and measures fluid with great precision, used to guide treatment decisions and track your response over time. Depending on your situation, I may also arrange:

- **Widfield retinal photography** - a wide-angle image of the retina taken in seconds, used to assess the extent and severity of retinopathy and detect new vessel growth.
- **Fluorescein angiography (FFA)** - a yellow dye injected into a vein in your arm, followed by retinal photographs as it passes through the blood vessels. This identifies leaking vessels and areas of ischaemia in detail. Not everyone requires this test.

Treating Diabetic Macular Oedema (DMO)

When fluid accumulates at the macula and threatens central vision, I will usually recommend injection treatment. In mild cases without central involvement, monitoring alone may be appropriate initially.

Anti-VEGF Injections

First-line treatment for centre-involving DMO. A small injection of medication into the eye reduces leakage from damaged vessels. Given monthly at first, then extended as the condition responds. Around 50% of patients gain a meaningful improvement in vision; most others are stabilised. Treatment is typically needed for several years and regular attendance is essential.

Steroid Implant

A slow-release pellet injected into the eye, effective for four to six months. Particularly useful when anti-VEGF has not produced an adequate response. Main side effects are an increased risk of cataract formation and raised eye pressure, both monitored at follow-up appointments.

Laser Treatment

Laser burns applied to areas of peripheral macular leakage. Now used mainly for DMO that does not involve the central macula, or as an adjunct to reduce the injection burden. The aim is to stabilise rather than improve vision.

Observation

Mild DMO not threatening the central macula may be monitored before starting active treatment. I will advise on whether this is appropriate in your case.

Treating Proliferative Diabetic Retinopathy (PDR)

The aims of treatment are to cause the abnormal new vessels to regress and to prevent bleeding, retinal detachment, and pressure rise in the eye.

Panretinal Laser (PRP)

The primary treatment for PDR. Hundreds of small laser burns are applied across the peripheral retina over one to three sessions. This reduces the retina's demand for oxygen and causes abnormal vessels to shrink. PRP preserves sight rather than improving it. A small reduction in peripheral and night vision is a recognised side effect, though more than 90% of patients retain sufficient visual field to drive.

Anti-VEGF Injections

Injections can cause rapid regression of new vessels and are sometimes used alongside or instead of laser - particularly when new vessel growth is very active, when laser cannot be performed, or when DMO is also present. They do not replace the need for laser in most cases.

Surgery

A small number of patients develop complications that require vitreoretinal surgery - either because a vitreous haemorrhage (bleed into the gel of the eye) has not cleared within several months, or because tractional retinal detachment has occurred due to scar tissue pulling on the retina. These are specialist surgical procedures that I would refer to a vitreoretinal surgical colleague. I will discuss the timing and nature of any referral with you in full.

Driving and the DVLA

PRP laser can affect peripheral vision, which is relevant to driving. You are legally required to inform the DVLA if you have had PRP laser treatment. The DVLA will usually arrange a formal visual field test at a local optometrist before making a decision. Please let me know if you have any concerns about this and I will advise you.

SEEK URGENT ADVICE IF YOU NOTICE:

- A sudden increase in floaters, flashing lights, or a dark shadow or curtain across your vision - this may indicate a vitreous haemorrhage or retinal detachment
- Sudden significant blurring or loss of vision
- Increasing redness or pain after an injection

Please call my secretary on **01273 782500** in the first instance. If you cannot reach us, attend the eye casualty department at Sussex Eye Hospital (Eastern Road, Brighton, BN2 5BF) or your nearest emergency eye service.

Follow-up

Diabetic retinopathy requires long-term monitoring. The frequency of appointments depends on the severity of your condition and whether you are receiving active treatment - typically every four to eight weeks during injection treatment, and at longer intervals once stable. I will keep your GP and diabetes team informed of your eye health throughout.

The most important thing you can do between appointments is to maintain good control of your blood sugar, blood pressure and cholesterol. Even modest improvements in these levels have been shown to slow the progression of diabetic retinopathy significantly.