

Diabetes is a condition that can damage many parts of the body including the eyes.

The nerves, blood vessels, kidneys and other organs of the body can get damaged due to complications of diabetes.

Over time, damage can develop in the blood vessels that supply the central retina (at the back of the eye). This can lead to vision loss, which can affect distance vision and near vision or fine detail, such as the small print in a document.

As diabetic retinopathy reaches advanced stages, some of the blood vessels that supply the retina will become blocked. To compensate for this, the body will start to produce new blood vessels to restore the supply of blood. These blood vessels may bleed or leak.

As the new blood vessels are unstable and prone to bleeding, they can cause blurred and patchy vision as the blood obscures your sight. Over time, the bleeding can lead to the formation of scar tissue. There is a risk that this will pull your retina out of position. This is known as retinal detachment. Retinal detachment can lead to a darkening of vision, floaters and, if left untreated, a total loss of vision.

The central part of the retina called macula can also become affected by water-logging and leakage due to diabetes. This is called diabetic maculopathy and can lead to central visual loss, patchy vision and inability to see small print etc.

Risk factors

There are a number of risk factors that increase your chances of developing diabetic retinopathy.

Duration of diabetes; the biggest risk factor for diabetic retinopathy is the length of time that you have lived with diabetes.

Blood glucose level; People with high blood glucose levels are more likely to progress to advanced diabetic retinopathy.

High blood pressure; People with high blood pressure (hypertension) are likely to progress to advanced diabetic retinopathy.

Other risk factors are:

- ⤴ age
- ⤴ family history
- ⤴ African-Caribbean or south Asian origin
- ⤴ obesity
- ⤴ stress
- ⤴ lack of exercise
- ⤴ smoking
- ⤴ excessive alcohol consumption
- ⤴ a high amount of salt in your diet
- ⤴ a high-fat diet

Treatment

For early or moderate diabetic retinopathy the best treatment is good control of diabetes and control of risk factors including keeping your blood pressure at optimum levels (around 120/80 mmHg)

Advanced diabetic retinopathy like diabetic maculopathy (with sight threatening features) and proliferative retinopathy usually require laser treatment.

In advanced proliferative retinopathy, laser treatment may not be possible and a type of eye surgery called vitreous surgery may be required.

Aim of treatment

Aim of the laser treatment is to keep your vision stable. It is unlikely to improve your vision. Statistics show 70% stabilization of vision, 15% improved vision and 15% worse vision after focal laser for diabetic maculopathy.

Laser or injection treatment cannot replace good diabetic control. If your diabetes, blood pressure and cholesterol remain out of control, laser or injection treatments will fail and you may lose vision.

Laser treatment

The type of laser treatment used to treat diabetic retinopathy is known as photocoagulation. Photocoagulation involves using a laser to burn away any abnormal blood vessels or abnormal retina which may affect the normal retina.

Laser for diabetic maculopathy stabilizes or improves vision in 85% of patients. Approximately 15% of patients will experience visual loss even after laser treatment for diabetic maculopathy. This is usually because of progressive damage by diabetes affecting the blood vessels of the retina.

Photocoagulation reduces the risk of severe visual loss over 5 years by 50% in patients with proliferative diabetic retinopathy.

More than 50% of people who have laser treatment for diabetic retinopathy notice some difficulty with their night vision, and 3% notice some loss of peripheral vision.

Injection treatment:

Injections can help in certain types of diabetic retinopathy by reducing leakage in the retina. This type of retinopathy is called diabetic maculopathy. Initial stages of diabetic maculopathy may be treated with laser. However in some instances or later stages, injections may be more helpful. The injections of drugs called Ranibizumab (Lucentis®), Bevacizumab (Avastin®), Afiblicept (Eyelea®), Triamcinolone or Flucinolone acetate (Illuvien®) are usually used depending on circumstances. You should talk to your doctor about these as each of these will have risks and benefits, which will need to be considered on a case to case basis.

Seek medical advice if you experience any new eye problems following treatment.

Sources: http://www.cks.nhs.uk/patient_information_leaflet/diabetic_retinopathy

Disclaimer: This information leaflet is produced to help increase awareness regarding diabetic retinopathy. It is not intended to replace professional medical advice or to provide advice in any special individual circumstance. Please seek expert medical advice regarding your specific medical condition.

Draft version 1.2 /MUS