

Patient information

Laser treatment for diabetic macular oedema

What is macular oedema?

Diabetic macular oedema is an eye condition occurring in people with both type 1 and type 2 diabetes. Diabetes is characterised by increased levels of sugar (glucose) in the blood stream. Medication such as insulin is used to lower blood glucose, with the aim of getting it back into the normal range. Consistently high blood sugar can damage blood vessels, with the first signs appearing in the smallest veins, called capillaries.

Many diabetics – particularly those with poor blood glucose control which results in too-high blood sugar levels over long periods of time – have damaged blood vessels in the retina, the tissue in the back of the eye that carries the vision cells. This condition, called diabetic retinopathy affects up to 80% of all patients who have had diabetes for 10 years or more.

One aspect of diabetic retinopathy is diabetic macular oedema, in which fluid leaks out of the tiny, fragile, already damaged blood vessels in the back of the eye, and accumulates in the macular. This leads to swelling of the tissue and blurred vision. Eventually, patients with diabetic macular oedema can be left functionally blind, unable to read, drive, and even care for themselves. Diabetic macular oedema is not a disease in itself, but a side effect of diabetes. It is also a significant cause of vision loss in diabetics. About one in three people living with diabetes for 20 years or more will develop diabetic macular oedema.

Regular visits to eye specialists are essential for all diabetics, so signs of vessel damage in the retina (diabetic retinopathy) or diabetic macular oedema can be detected as early as possible. If you experience blurred vision, you should visit an eye specialist immediately.

What treatments are there for diabetic macular oedema?

Laser photocoagulation is the usual treatment. It involves placing small laser burns in the area of leakage in the retina. These burns slow the leakage of fluid and reduce the fluid in the eye. This is the only generally accepted treatment, but, although it can stop your vision from getting worse, it does not significantly improve vision

for the majority of patients for more than three years after treatment.

Other treatments are available and have been shown to benefit patients with diabetic macular oedema – these include the anti-VEGF drugs, bevacizumab and ranibizumab. Ask your specialist if these treatments are suitable for you or available to you.

What is laser photocoagulation?

In this type of laser treatment, light rays are focused onto a tiny spot on the retina. The light produces heat, which aims to reduce leakage from the abnormal blood vessels. A local anaesthetic drop is applied to minimise the discomfort of the lens, which is placed on your eye to allow the doctor to see your macular. There is minimal discomfort associated with this 5 to 10 minute procedure. The aim of treatment is to reduce the risk of further visual loss.

Worsening of vision can occur. This is usually due to an inability to halt the disease. Rarely, it is possible that your vision may decline as a direct result of treatment.

How does it work?

Tiny laser burns allow more oxygen and nutrients to reach the retina, which improves the blood circulation.

What's the procedure?

- You have local anaesthetic and pupil-dilating eye drops put in your eye
- The laser beam is directed onto the abnormal parts of your retina
- Small bursts of tiny beams of laser light then seal leaky blood vessels and destroy abnormal new blood vessels in the retina

An eye doctor (ophthalmologist) carries out laser treatment, nearly always as an outpatient procedure, which means that you can go home afterwards. A session of treatment can vary in length from person to person. Ask your eye doctor how long your sessions will last and whether you will be expected to come back for more treatment.

Is it painful?

As a local anaesthetic is used, laser treatment is not painful for most people, although a few will experience some discomfort. Many people say that the first laser sessions are not painful, but treatment can become uncomfortable if many sessions are needed.

Before your laser sessions, speak to your eye doctor about using your usual methods of pain relief, should these be needed.

What should I do after treatment?

Some lasers operate with bright flashes of light during a session. In others, the beam is invisible to the patient. Whichever method is used, most people describe feeling slightly dazzled or say that their vision is affected for a while immediately after treatment. It is a good idea to ask a friend or family member to come home with you after a session, and to allow yourself time to rest quietly.

As your eyes will take time to return to normal after the treatment, remember:

- Take sunglasses with you as your eyes may be more than usually sensitive to bright light for a while
- Arrange for someone to drive you home, because the dilating drops will temporarily blur your vision

Are there any side effects?

Some people develop mild distortion and a temporary worsening of vision, but in most people this improves within a few weeks. Occasionally, people may see small blind spots, or scotomas, after the laser therapy, but this is unlikely.

People who have had many sessions of laser treatment may notice some loss of quality in their sight. This is because diabetic macular oedema is a progressive disease and laser is not always successful.

Thank you for reading this information.

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Phone: 020 7253 3411

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Moorfields Direct telephone helpline

Phone: 020 7566 2345

Monday to Friday, 9am to 4.30pm, for information and advice on eye conditions and treatments from experienced ophthalmic-trained nurses.

Patient advice and liaison service (PALS)

Phone: 020 7566 2324 or 020 7566 2325

Email: pals@moorfields.nhs.uk

Moorfields' PALS team provides confidential advice and support to help you sort out any concerns you may have about the care we provide, guiding you through the different services available at Moorfields. The PALS team can also advise you on how to make a complaint.

Your right to treatment within 18 weeks

Under the NHS constitution, all patients have the right to start their consultant-led treatment within 18 weeks of being referred by their GP. Moorfields is committed to fulfilling this right, but if you feel that we have failed to do so, please contact our patient advice and liaison service (PALS) who will be able to advise you further – see above for contact details. For more information about your rights under the NHS constitution, please visit www.nhs.uk/choiceinthenhs.

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