



Preparing for laser treatment for diabetic retinopathy and maculopathy

This leaflet sets out to answer the questions people with diabetic retinopathy commonly ask about laser treatment. You might want to discuss this information with a relative or carer. Before you have laser treatment, you will be asked to sign a consent form and so it is important that you understand why you are agreeing to have treatment.

Summary

At present, laser treatment is the only proven treatment for diabetic retinopathy.

- The benefits of laser treatment greatly outweigh the risks.
- The aim of laser treatment is to stabilise the changes caused in your eyes by your diabetes.
- The treatment does not generally improve your sight, although in some cases it might.

It is likely that without this treatment you will lose some or all of your sight.

Why am I being offered laser treatment?

An examination of your eyes has shown that your diabetes is affecting the small blood vessels in your retina and that you are at risk of long-term problems with your sight.

The NHS Website explains the changes diabetic retinopathy can cause in more detail, visit <https://www.nhs.uk/conditions/diabetic-retinopathy/>.

What is the aim of laser treatment?

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What does laser treatment for diabetic eye disease involve?

- A course of laser treatment may involve one or more visits to the laser clinic before the changes are controlled.
- You will usually receive the treatment at an outpatient clinic.
- Your sight will be checked and eye drops will be used to dilate both your pupil(s) as the doctor recommends, although you may only have treatment to one eye at each visit. For this reason, you should not drive – get a lift to and from your laser appointment.
- After the doctor has examined your eyes and you have agreed on the treatment and signed the form giving your permission (consent form), you will be taken through to the laser room.
- More drops will be put onto your eyes to numb the surface and then a special contact lens will be placed on the eye to hold your lids open and to focus the laser beam onto your retina. The lens will be removed after you have had the treatment.
- The laser treatment involves focussing an intense beam of light onto your retina in small spots. The number of spots will vary according to the type and severity of diabetic change you have and how severe the changes are.
- Your eye will get used to the brightness during the treatment but at the end you will be dazzled and your sight will seem darkened for several minutes. It is a good idea to bring dark glasses/sunglasses to wear to go home after the treatment.

What should I expect after the laser treatment?

Your sight will normally return to its previous level over the next few hours and you will be able to continue your work or normal activities the next day, including driving

- Rarely, your sight can take longer to return to normal.
- If you have a lot of treatment, your eyes may ache. You should find that mild painkillers, such as paracetamol and aspirin, ease the pain.

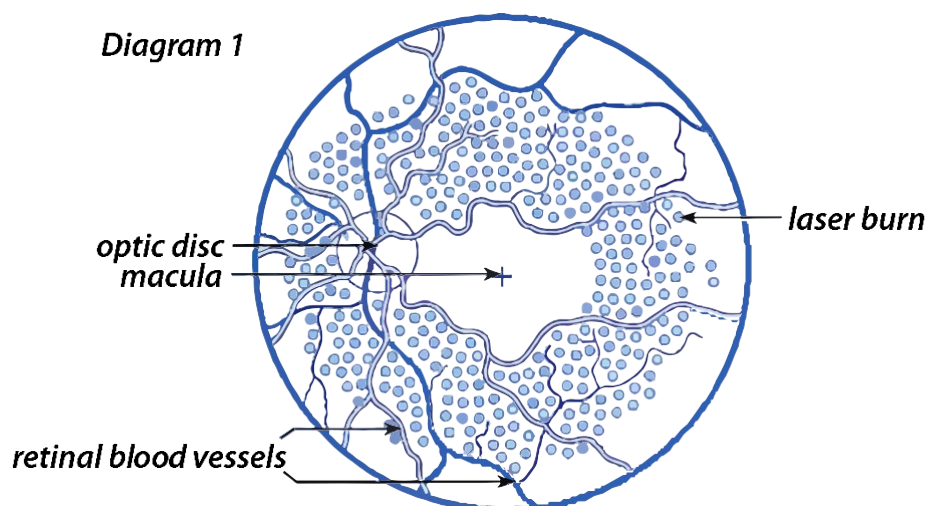
Will I feel any discomfort?

- Usually, the treatment is not painful.
- Sometimes, the treatment will cause a sharp pricking feeling when certain areas of the retina are treated. This will happen where nerves run under the retina. The doctor who is giving your laser treatment cannot see these nerves. Please inform your doctor if you feel pain so they can adjust the setting, if possible to make the treatment more tolerable.
- If you have had a number of laser sessions in the past, you may feel some discomfort during the treatment.
- If you have felt discomfort in the past, take painkillers an hour before your appointment.

You should get medical advice if you have any new problems after your laser treatment.

What is the treatment for proliferative retinopathy?

- If you have proliferative retinopathy (new abnormal blood vessels on the retina), or if the doctor thinks you will very soon have proliferative retinopathy, multiple burns may be required to the outer part of your retina (the part of the retina that allows you to see to the side and in the dark).
- This treatment is called peripheral scatter laser photocoagulation (please see diagram 1).



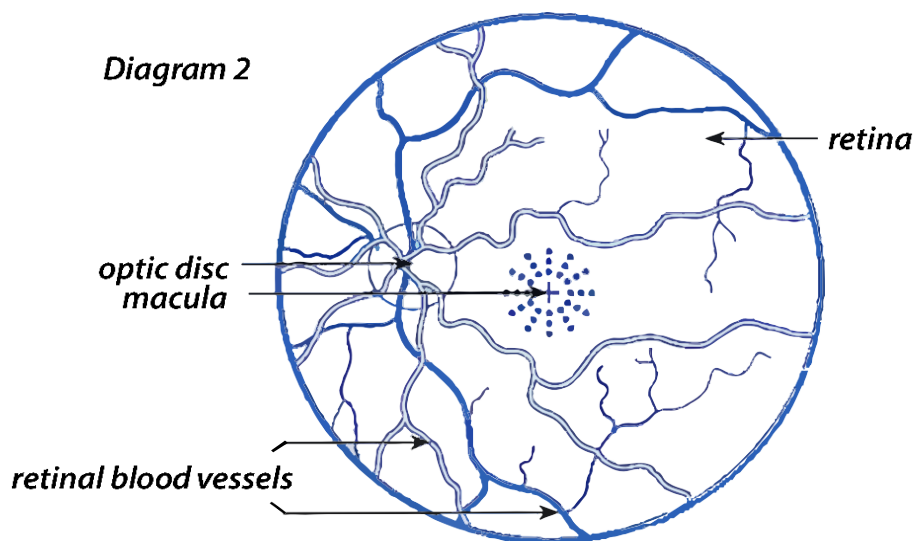
What are the risks of laser treatment for proliferative retinopathy?

At the end of a course of treatment for proliferative retinopathy, the following may apply:

- Over half of people treated notice some difficulty with their night vision.
- One in five people notice (20%) some loss of peripheral vision (the outer field of vision) in one or both eyes, and three in 100 (3%) people have to stop driving because their peripheral vision has been reduced (tunnel vision).
- If you need an intensive course of laser treatment to control the changes in your eyes, you may notice a temporary worsening of your sight due to the macula (the small, highly sensitive central area of the retina) becoming waterlogged. This should sort itself out, but needs treatment in a small number of cases.
- Occasionally, some people have a bleed into the jelly that fills the eye (the vitreous). If you notice a shower of floaters (specks that float across your vision) or your sight gets worse, you should get medical advice.

What is the treatment for maculopathy?

- If you have macular changes, we will apply gentle laser burns close to the central part of the retina – the part that you use for seeing clearly.
- You need much less laser treatment than for proliferative retinopathy.
- We may apply laser burns in a grid pattern over the area (please see diagram 2) or they may be aimed directly at the leaking areas.



What are the risks of maculopathy treatment?

- Complications are very rare for maculopathy treatment.
- Some people can still 'see' the laser grid pattern after treatment. Usually, this continues for up to two months and, very occasionally, for up to six months after treatment.
- In a national survey, about one in 10 people reporting seeing a small but permanent blind spot close to the centre of their sight.
- The chance of you completely losing your central vision after laser treatment for maculopathy is around one in 300 (0.3%).
- We cannot completely avoid accidental laser burns to the very centre of your vision. You may find it difficult to keep still or may accidentally look at the laser when it fires. If we feel that the risk of

this happening is too high, we will stop your treatment.

- Occasionally, a laser burn to your retina may result in new harmful blood vessels growing that may bleed and cause scarring to the central vision resulting in permanent loss of your central vision.

How successful is laser treatment?

- If laser treatment is given when the changes are at the correct stage, it is very effective.
- Laser treatment for early proliferative retinopathy will prevent severe sight loss in over 90% of cases. In most cases, we will be able to save your reading and driving vision.
- Laser treatment for macular changes is not as successful as that for proliferative retinopathy but prevents serious sight loss in 60% to 70% of cases.

Is there any other treatment available for diabetic retinopathy?

- At present, laser treatment is the only proven standard treatment for eye changes caused by diabetes.
- Research into new treatments is underway in many centres.
- Other treatment for maculopathy is available but only in special cases, please ask the eye specialist to find out if you are eligible.

What will happen if I don't have laser treatment?

- The benefits of laser treatment greatly outweigh the risks.
- It is likely that without this treatment you may lose part or all of your sight.

Why might laser treatment not work for me?

In some cases, the damage to the very small blood vessels in the retina may already be so far gone that the laser treatment does not work. In some cases, we will suggest that you have a special intravenous dye test to allow us to assess the circulation in your eyes. This test is known as 'fundus fluorescein angiography' (FFA).

If your diabetic eye disease is very aggressive, the changes may be moving on too fast for the laser to control them. If it is very important that you make sure that your blood glucose and blood pressure are at the best levels that you can achieve, as this can help to slow the process. You should be seeing your general practitioner or diabetes physician regularly to monitor this.

If laser treatment does not work for you or there is persistent bleed in the jelly (vitreous) obscuring your sight, it may be possible for you to have an operation on the eye. We will refer you to a vitreoretinal surgeon to discuss these options if we feel that they may help you.

If you have any questions after reading this leaflet, we suggest that you write them down and discuss them with your eye specialist before you agree to treatment.

More information and support

If you have any questions about laser treatment for diabetic retinopathy and maculopathy:

- Ask your doctor or nurse;
- Contact your local screening office;
- Visit www.nsretinopathy.org.uk;
- Visit www.diabetes.org.uk;
- Visit www.nhsdirect.nhs.uk;
- Visit www.nib.org.uk.

Contacting us

If you have got a minor eye problem, please seek advice from your GP, optician or pharmacist. If you think your problem might be urgent, please attend Eye Casualty.

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| Eye Casualty (Reading): | Mon-Fri 8.30am to 5pm; Sat & Sun & bank holidays 8.30am-12.30pm; Closed Christmas Day and New Year's Day. |
| Eye Casualty: Prince Charles Eye Unit (Windsor): | Mon-Fri 8.30am to 5pm; Sat 8.30am-12.30pm; Closed Sun & bank holidays. |
| Dorrell Ward (Reading): | 0118 322 7172 (24 hours a day) |
| Eye Day Unit (Reading): | 0118 322 7123 (Mon-Fri 7am to 6pm) |

Outside of Eye Casualty hours, you should telephone your GP's out of hours' service, ring NHS 111 or if you have serious concerns, visit your nearest Emergency Department (A&E).

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

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Next review due: November 2026