



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 one of the proven treatments 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.

If you have not already done so, you should read “Diabetic Retinopathy – the facts” which explains these changes in more detail.

What is the aim of laser treatment?

- The aim of laser treatment is to stabilise the changes caused in your eyes by your diabetes.
- The treatment does not generally improve your site although in some cases it might.

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 pupils, 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.

Information for Patients

- 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.
- Drops will be put into 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 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. You could bring dark glasses 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.
- Rarely your sight can take longer to return to normal.
- If you have had a lot of treatment, your eyes may ache. You should find that mild painkillers, such as paracetamol and aspirin ease the pain.

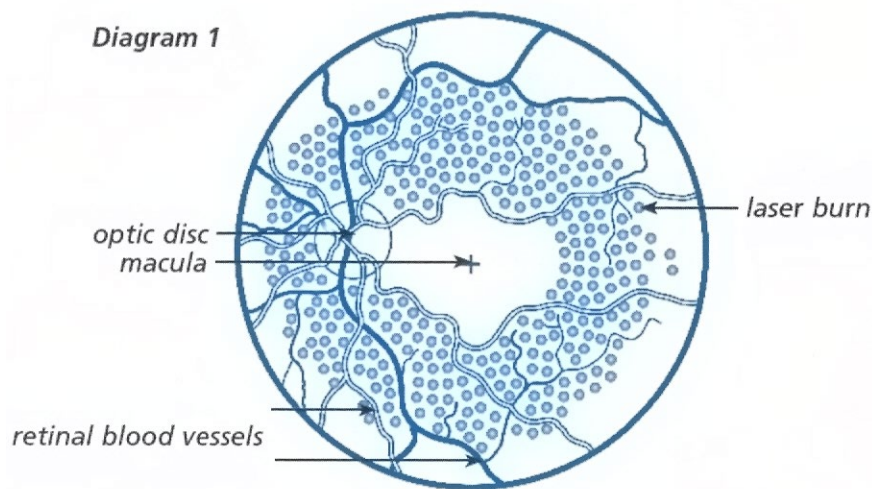
Will I feel any discomfort?

- 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 makes it more sensitive. The doctor who is giving your laser treatment cannot see these nerves.
- 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, ask the doctor to give you painkillers or a mild sedative before the treatment starts, or take this yourself, an hour before your appointment.

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

What is the treatment for proliferative retinopathy?

- If you have proliferative retinopathy (new blood vessels on the retina) or if the doctor thinks you will very soon have proliferative retinopathy we will apply a large number of laser burns 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.

- Some people treated notice mild 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.
- If a lot of laser is needed you may notice glare, that is difficulty seeing in sunlight. You may also notice difficulty seeing and driving at night. These are particular problems everyone who has had a lot of laser notices. Wearing a peaked hat may be helpful, as may tinted glasses, or glasses that change colour in bright weather.

What is the treatment for maculopathy?

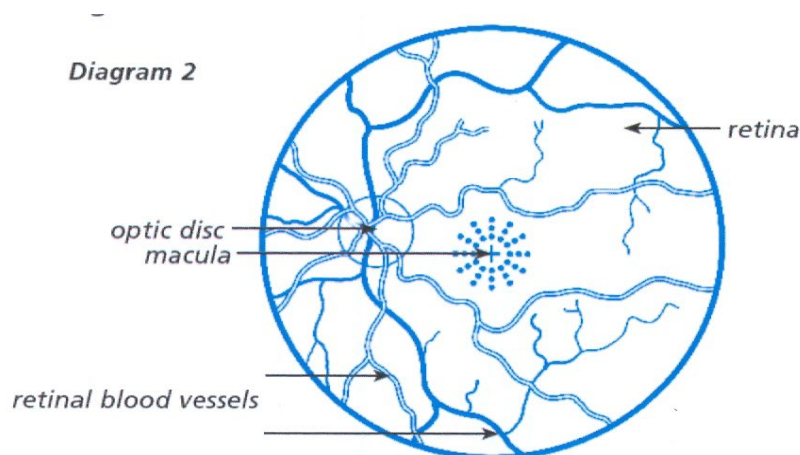
- If you have macular changes, we will apply gentle laser burns close to the central part of the retina – the part that you use for seeing clearly.
- You need much less laser treatment than for proliferative retinopathy
- We apply laser burns directly at the leaking areas.

Information for Patients

What are the risks of laser treatment for maculopathy?

- Complications are very rare for maculopathy treatment.
- Some people can still “see” the laser pattern after treatment.
- In a national survey, around one in 10 people reported 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 as 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 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 prevent serious sight loss in 60% to 70% of cases.

Is there any other treatment available for diabetic retinopathy?

- At present, laser treatment is the main treatment for proliferative retinopathy and maculopathy when water logging is around the centre of vision.
- Anti-VEGF (Anti vascular endothelial growth factor) injections are also used in some patients with proliferative retinopathy if laser treatment is not sufficient or cannot be given (due to bleeding in the gel of the eye, intolerance, extensive laser treatment).

Information for Patients

- Anti-VEGF (Anti vascular endothelial growth factor) injections for the eye are available if the water logging is at the centre of the vision (macula) and is above a particular level.
- Anti-inflammatory steroid implants are also used for maculopathy if the water logging is at the centre in suitable patients.
- Research into new treatments is underway in many centres.

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'.

If your diabetic eye disease is very aggressive, the changes may be moving on too fast for the laser to control them. It is very important that you make sure that your blood glucose and blood pressure are at the best levels 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, it may be possible for you to have regular injections into the eye or 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.nscretinopathy.org.uk
- Visit www.diabetes.org.uk
- Visit www.nhsdirect.nhs.uk
- Visit www.rnib.org.uk

Other leaflets available in this series

- Eye screening for people with diabetes – the facts

Information for Patients

- Diabetic retinopathy – the facts

Hospital Contact Numbers:

Good hope site:

Appointments: 0121 4249651

Nurses answer phone: 0121 4249667

Solihull site:

Appointments: 0121 4244463

Nurses answer phone: 0121 4244456

Heartlands site:

Appointments: 0121 4240545

Nurses answer phone: 0121 4241536

If you require this information in another format, such as a different language, large print, braille or audio version please ask a member of staff or email patientexperience@uhb.nhs.uk.