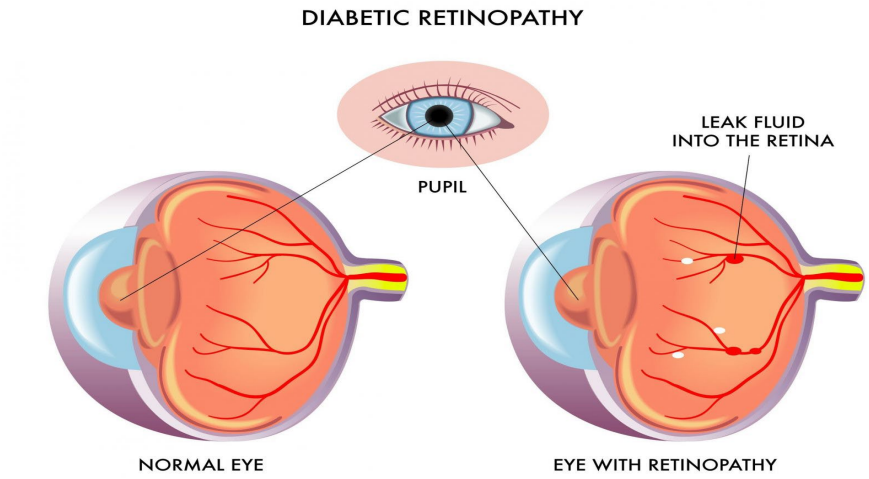
Diabetic Retinopathy and Maculopathy Laser Treatment

If you have difficulty reading this leaflet, please ask us to send you a copy in a larger print size.

If your first language is not English, we can arrange for an interpreter to be available. Please let us know in advance if you require this service.

What is Diabetic Retinopathy?

Many diabetics have damaged blood vessels in the retina, which is 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.



What is Diabetic Maculopathy?

Diabetic maculopathy is a condition that can result from retinopathy. Maculopathy is damage to the macula, the part of the eye which provides us with our central vision.

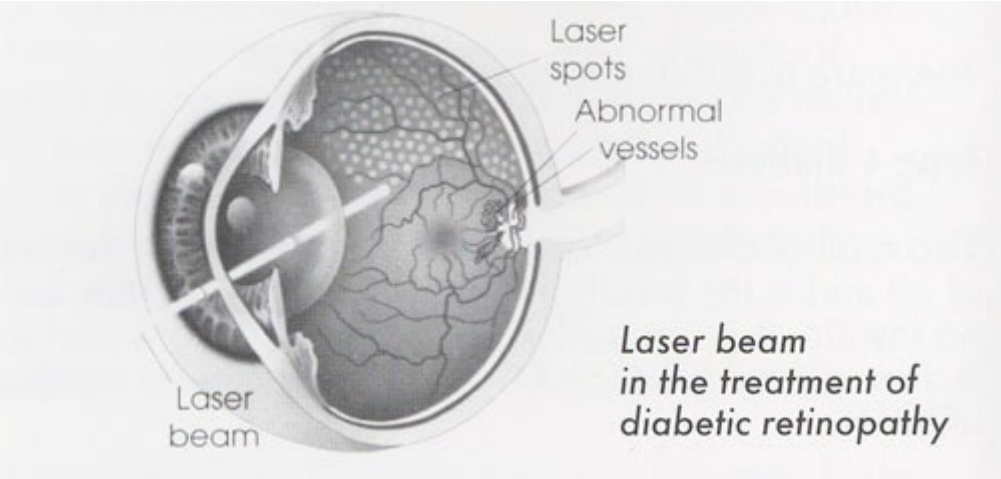
One such cause of macular damage is from diabetic macular oedema, whereby blood vessels near to the macula leak fluid or protein onto the macula.

When the leakages cause the retina to harden and exudates (deposits of fat from the blood) become significantly large and close to the fovea, then the condition is termed as Clinically Significant Macular Oedema (CSMO).

What laser treatment is available?

There is one laser treatment which uses laser to the retina (back of the eye):

- **Photocoagulation Laser** (to slow leakage of fluid in the retina – Diabetic Macular Oedema)
- **Pan-Retinal Photocoagulation (PRP)** (to reduce the risk of further loss of vision)



Photocoagulation Laser

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 macula. This leads to swelling of the tissue and blurred vision.

Photocoagulation laser involves placing very 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. It can stop your vision from getting worse, but it does not significantly improve vision for the majority of patients for longer than three years after treatment.

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 contact lens, which is placed on your eye to allow the doctor to see your macula. 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. During and after the laser a dull ache and occasionally a sharp pain may be experienced. You can take analgesia (e.g. paracetomol) to relieve any discomfort.

After treatment you will find light bright and your vision will remain blurred for a few hours.

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. The risks of the procedure will be explained to you by the laser practitioner and you will be asked to sign a consent form.

You may receive further laser treatment and regular follow up appointments will determine if this is necessary.

Pan-Retinal Photocoagulation (PRP)

This laser is most commonly used in diabetic retinopathy and in central retinal vein occlusion. In these conditions, there is sometimes a risk of further deterioration in the vision and the laser treatment is designed to reduce the risk of further loss of vision. It will not improve your vision.

Eye drops will be given to numb the eye and to dilate the pupil. A contact lens is placed in the eye to help keep the lids open, to focus the laser beam and to allow the doctor to view the back of the eye.

During and after the laser a dull ache and occasionally a sharp pain may be experienced. You can take analgesia to relieve any discomfort.

After treatment you will find light bright and your vision will remain blurred for a few hours.

You may receive further laser treatment and regular follow-up appointments will determine this.

Where will the laser treatment be carried out?

An eye doctor (or occasionally an optometrist) will carry out the laser treatment as an outpatient procedure, which means that you can go home afterwards. A course of treatment can vary in length from person to person. Ask your eye doctor whether you will be expected to come back for more treatment.

What should I do before I come into hospital?

It is important to use your normal eye drops and other medications on the day of your treatment, unless your eye doctor has told you not to.

Please **do not drive** yourself to this appointment as the dilating drops will blur your vision and make your eyes sensitive to the daylight. The drops may also invalidate your driving insurance for as long as the symptoms last, which can be for 6 hours or longer.

Consent (giving your permission)

The staff caring for you may need to ask your permission to perform a particular treatment or Investigation. You will be asked to sign a consent form that says you have agreed to the treatment and that you understand the benefits, risks and alternatives. If there is anything you don't understand or if you need more time to think about it, please tell the staff caring for you. Remember, it is your decision. You can change your mind at any time, even if you have signed the consent form. Let staff know immediately if you change your mind. Your wishes will be respected at all times.

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 person. Whichever method is used, most people describe feeling slightly dazzled or say that their vision is affected for a while immediately after treatment. However, vision should return to normal after a few hours. 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 to:

- 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.

What are the potential risks and side effects?

- Some people develop macular oedema (gathering of fluid in the macula, causing swelling) after laser treatment. This may cause a temporary worsening of vision, but in most people this improves within a few weeks.
- People who have had many sessions of laser treatment may notice some loss of quality in their sight. This is because repeated laser treatment may damage healthy parts of the retina.
- Also, if a patient has had many laser sessions, the edges of vision, called the 'peripheral visual field', may sometimes be reduced. This means that driving would be unsafe in this instance, even if the central vision remained good.

- People may have difficulty seeing in low light or at night, distinguishing colours and may also see shimmering or flashing lights.
- Some people can still 'see' the laser grid pattern after treatment. This can continue up to two months and, very occasionally, for several months after treatment.
- The chance of you completely losing your central vision after laser treatment for maculopathy is around one in 300 (0.3%).

What should I do if I have a problem?

If you develop any of the symptoms featured in this leaflet, or need urgent advice about your eye(s), you can contact our Eye Emergencies telephone line on 0300 1314 500 extension 771744 (Mondays to Fridays between 09:00am and 5:00pm). Outside of these hours, call 0300 1314 500 and ask to speak to the on-call eye doctor.

Cancelling your appointment

If you need to cancel or change your appointment, please call the appointments line on **0300 131 4600**.

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from an eye doctor or other qualified practitioner.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments please contact the Patient Experience Team – on 0300 131 4731 or by email at: esh-tr.patientexperience@nhs.net

Hand hygiene

The trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: 0300 131 4434 Email: esh-tr.accessibleinformation@nhs.net

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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Reference

Reviewed by: Paul Russell (Staff Nurse and Laser Link Nurse)

The following clinicians have been consulted and agreed this patient information: Mr. Saruban Pasu, Consultant Ophthalmologist, Mr. Kashif Qureshi, Consultant Ophthalmologist, Matron Tracy Daniel, Eye Outpatients Bexhill Hospital.

The directorate group that have agreed this patient information leaflet: Ophthalmology Department, Diagnostic, Anaesthetic and Surgery division (DAS)

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Responsible clinician/author:	Ophthalmology Department (ESHT)