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Kingston Hospital NHS
NHS Foundation Trust

Diabetic macular oedema

Patient information leaflet

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What is diabetic macular oedema?

The macula is the central part of the retina (the light sensing tissue at the back of the eye). It is responsible for your central, fine vision – this is needed for activities such as reading and other detailed vision.

In diabetes, the blood vessels of the retina become damaged due to high sugar levels and become leaky.

What are the symptoms of diabetic macular oedema?

In the early stages, you may not notice any problems with your vision. However if the leakage from the vessels continues and leads to more fluid accumulation within the macula, the central vision may start to become blurry or distorted and in long-standing cases even a blind spot may develop leading to loss of central vision.

How is diabetic macular oedema diagnosed?

1. **Slit lamp examination**

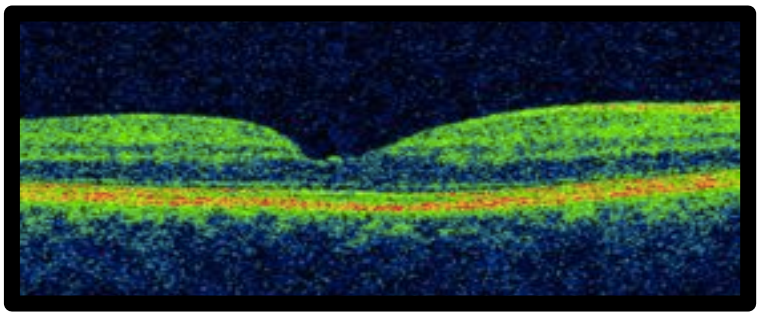
   This is the examination performed by your eye doctor in the clinic. Dilating eye drops will be instilled.

2. **Optical coherence tomography (OCT)**

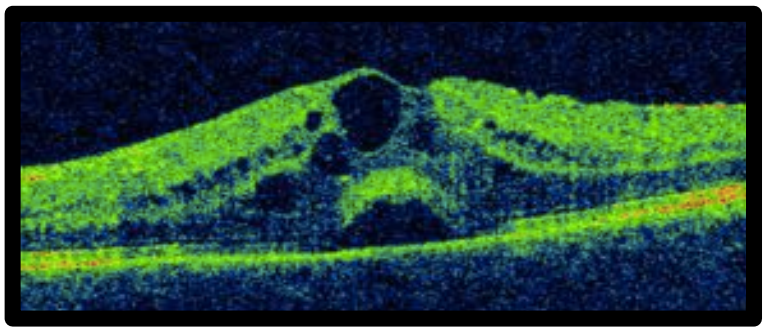
   An OCT scan is performed at each visit. It is non-invasive, and uses light energy to produce detailed images of the back of the eye.

3. **Fluorescein angiography (FFA)**

   This is a dye test which helps to give a detailed view of the blood supply to the back of the eye. A yellow dye called fluorescein is injected through a vein in the arm and a series of photographs are taken. For more information, please see our FFA leaflet.



OCT scan of a normal macula. The dip in the middle of the scan is normal.



OCT scan of diabetic macular oedema. Note the large (dark) pockets and the thickened retina, which represent the waterlogging.

What are the treatment options for macular oedema?

1. **Adequate control of diabetes and other health problems**

   It is important to have good blood sugar, blood pressure and cholesterol control. This can help to reduce the risk of worsening of your diabetic macular oedema.

2. **Observation**

   If the changes are mild and your vision remains good, diabetic macular oedema can be observed.

3. **Laser treatment**

   This is explained in more detail below.

4. **Intravitreal injections**

What is injection treatment?

This is where a medication is injected into the vitreous gel at the back of the eye. The medication works by reducing the leakage from the blood vessels surrounding the macula. This helps to reduce the swelling at the macula. More information regarding this treatment can be found in our leaflet 'Intravitreal injections'.

Not all patients with diabetic macular oedema are suitable for injection therapy, but if we feel you will benefit from this treatment it will be discussed with you.

What is laser treatment?

Laser light is used to coagulate the leaking vessels or to produce small burns on the retina in the areas where there is fluid build-up from leaking blood vessels. This reduces the leakage from these vessels.

The laser takes a few months to achieve its full effect, this is why you will only return to clinic for 4 to 6 months after treatment. Some patients require more than one session of laser over a period of time.

What is the aim of laser treatment?

The main aim of laser treatment is to prevent the vision from getting worse by stabilising the diabetic changes in the eye. Laser does not directly improve vision.

What is involved in laser treatment?

1. The procedure is an outpatient clinic procedure, meaning you can go home the same day.
2. When you arrive, you will be given dilating drops to dilate the pupils. This will temporarily blur your vision for 4-6 hours. Therefore, it is a good idea to bring a friend or relative with you to the appointment.
3. The procedure is performed on a machine very similar to a slit lamp (where you rest your head on a chin-rest to be examined), except there is a laser added on.
4. You will be given anaesthetic eye drops to numb the eye. The eye doctor will then use a contact lens coated with a lubricant jelly onto the eye. This is used to focus the laser onto the retina. This contact lens is removed at the end of the procedure. You will hear beeping noise or clicks and experience seeing flashing lights during treatment.
5. Your vision will be blurry for a few minutes immediately after treatment. You may find it helpful to bring a pair of sunglasses, as you may be more sensitive to light after the dilating drops.

What are the side effects of laser treatment?

Side effects from laser for diabetic macular oedema are rare, as the area being treated is small. Some of the possible side effects include:

- Need for more than one laser treatment
- Need for intravitreal injections
- Altered colour vision
- Blind spots in your central vision. If this is significant (often only occurs with extensive laser treatment), this may affect your ability to meet the legal visual requirement for driving.
- Reduced vision. This is rare, and may occur due to pre-existing poor circulation to the macula, or due to an accidental laser burn to the fovea (area responsible for central vision).

Contact details

Royal Eye Unit

Mon-Fri 8.30am to 5pm

0208 934 6404

Moorfields at St Georges' Hospital (Duke Elder Ward)

Mon-Fri 5pm to 8.30am, weekends and Bank Holidays

020 8672 1255 ext 2064/0638