DIABETIC MACULAR OEDEMA

Macular Disease Foundation AUSTRALIA

What is diabetic macular oedema?

Diabetic macular oedema – sometimes written as diabetic macular edema (DME) – is a complication of diabetic retinopathy (DR). DR is a complication of diabetes caused by damage to the small blood vessels in the retina at the back of the eye.

Diabetic macular oedema (DMO) occurs when the damaged blood vessels leak fluid and cause swelling of the macula, the area of the retina that is responsible for detailed central vision. It can occur at any stage once you've been diagnosed with diabetic retinopathy.

DMO is the most common reason that people with diabetic retinopathy lose their vision. Your risk of getting DMO is related to how well you control your diabetes.

Symptoms

Early DMO may have no symptoms, and it can cause progressive damage to your macula before you notice any changes in your vision.

If you do notice symptoms, the primary symptom of DMO is blurry or wavy central vision. DMO often impacts both eyes, but if only one is affected, you may not notice any blurriness until the disease is well advanced.

You might also notice that colours appear washed out or faded, or there are dark spots or gaps in your vision.

If you have any symptoms, whether or not you've been diagnosed with diabetic eye disease of any kind, you should get your eyes checked straight away as early treatment of DMO can help save your sight.

Importance of regular eye exams

Along with controlling your diabetes, regular eye exams are vital to protect yourself from vision loss caused by diabetes. Eye exams can identify problems before vision loss has occurred.

- If you have diabetes, you should have an eye exam when you're first diagnosed with diabetes. Your eye care professional will advise how often subsequent exams should be.
- If you have been diagnosed with diabetic eye disease, you should have an eye exam at least once a year, or as advised by your eye health professional.

When you see your eye health professional, it's important to tell them that you have diabetes. They'll also want to know how long you've had it, your most recent HbA1c blood test result (this provides a summary of your average blood sugar level over the past three months), and any medications you're taking.

Even if your results have been normal in the past, you must continue having regular eye exams. You should also avoid cancelling or delaying eye exam appointments.

Diagnosis

An eye health professional will use several tests when diagnosing diabetic eye disease, including diabetic macular oedema.

Vision or visual acuity testing

Vision or visual acuity testing provides a measure of how well you see. This allows comparison of your vision with previous visits and is important for monitoring changes in vision over time. It is essential to bring any glasses you have, to allow the most accurate testing of your vision.

Slit lamp retinal examination

Using a specialised microscope, your eye health professional will check the health of your eyes, including the retina, to check for signs of DR. You will have your pupils dilated (enlarged) with eye drops, which allows a better view of the retina. These will blur your vision for several hours, and you should not drive to your appointment.

Retinal photography

One or more photographs of the retina are often taken of each eye to provide a detailed record of the level of diabetic retinopathy. The rate of change in retinopathy over time can provide an indication of the risk of the sight-threatening stages.

Supplementary testing

Additional testing may be undertaken, if appropriate, including:

- **Optical coherence tomography (OCT):** This is a non-invasive imaging technique that uses light to produce very high-resolution cross-sectional images of the layers of your retina. It's particularly helpful to detect diabetic macular oedema, which appears as a collection of fluid within and under the retina.
- **Angiography:** If you have leaking blood vessels or macular oedema, your ophthalmologist may perform a fluorescein angiogram. Fluorescein is an orange dye that is injected into the blood via a vein in your arm. This dye rapidly reaches the eye via the bloodstream and circulates through the retina. A specialised camera is used to take a series of images of the blood vessels of the retina. This highlights areas of blood vessel leakage, abnormal blood vessels and areas of the retina that are not well supplied with blood. This procedure is done in the doctor's office.

Management and treatment

Managing controllable risk factors

To slow down the progression of DMO, it's important to manage your controllable risk factors.

- Weight and exercise: Regular exercise helps insulin to work better, lowers blood pressure, and helps reduce weight, which are all important in reducing the risk of DR and DMO.
- Blood glucose: People who have persistently high blood glucose levels are at risk of serious vision loss and blindness.
- High blood pressure: People with diabetes and high blood pressure are more likely to experience faster progression of DMO.
- Blood lipids: Elevated blood lipids, including cholesterol, should be managed with diet and in many cases medication
- Smoking: Smoking can increase the risk of blindness, and smokers should talk to their doctor about strategies to quit smoking

Treatment

Intravitreal injections are now the mainstay of treatment for DMO and have greatly improved the chances of preventing major visual loss from DMO, especially if it is caught early. An intravitreal injection involves the injection of a medication into the eye, usually a medication that acts against vascular endothelial growth factor (VEGF), often referred to as anti-VEGF injections. Anti-inflammatory steroids are also injected in some cases. For many patients, these injections can stabilise or even improve vision.

It's important to know that injections usually need to be repeated often, up to each month, for many months to ensure the best outcomes.

In some cases, laser treatment may also be used.

Need more information?

KeepSight

KeepSight is a national diabetes eye screening program encouraging people with diabetes to get their eyes checked. By registering with KeepSight, you'll receive important information and alerts. You can sign up for KeepSight at **www.keepsight.org.au.**

Help is available. Diabetes is a chronic, complex condition requiring multidisciplinary care. A diabetes care team may include your general practitioner or endocrinologist, diabetes educator, podiatrist, eye health professional (optometrist and/or ophthalmologist), and dietitian.

Need more information?

You can also access our free, personalised support services and order information kits and Amsler grids by calling our National Helpline on **1800 111 709.**

MDFA has a free newsletter and you can sign up to receive invitations to education sessions and events in your area.

Macular Disease Foundation Australia is committed to reducing the incidence and impact of macular disease, by providing up-to-date information, advice and support.

Learn more about macular disease at **www.mdfoundation.com.au.**

How's your macula? Take the quiz at **www.CheckMyMacula.com.au.**

National Helpline

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