

# Bayside Eye Specialists

*Excellence in Eye Care*

Information from the Macular Degeneration Foundation <http://www.mdfoundation.com.au/>

Macular Degeneration (MD) is the name given to a group of degenerative diseases of the retina that cause progressive, painless loss of central vision, affecting the ability to see fine detail, drive, read and recognise faces.

Although there is no cure for MD, there are treatment options that can slow down its progression, depending on the stage and type of the disease (wet, dry, and other forms). The earlier the disease is detected, the more vision you are likely to retain.

Your eye works very similar to a camera. The lens at the front of your eye focuses the image onto the retina which lines the back of the eye. The retina acts like the film in the camera. The image is sent from the retina through the optic nerve and interpreted by our brain. The Macula is the very centre of the retina. You are reading this text using your macula. It is responsible for your central, detailed vision. It is responsible for your ability to read, distinguish faces, drive a car and any other activities which require fine vision. Your peripheral retina gives you the ability to see general shapes and gives you your 'get-about' or peripheral vision.

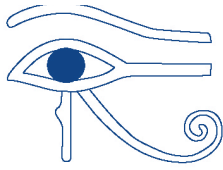
## **Dry MD**

When cells in the retinal pigment epithelium die, the retinal cells above them also die, leading to patches of 'missing' retina. This is dry MD. This is a slower form of the disease, causing gradual loss of vision. Dry MD does not cause sudden vision loss or distortion. If you know you have dry MD and you experience any sudden change in vision, then it is likely that you have developed the 'wet' form. It is critical that you see your eye care professional urgently.

## **Wet MD**

The wet form of MD occurs when the choroidal blood vessels grow into the retina. When these cells enter the retina, they grow wildly, and they leak fluid and blood into the retina, leading to scarring and loss of vision. When left undetected or untreated, rapid and severe loss of central vision can occur within a short period of time. The Amsler grid will help you to detect MD.

Both wet and dry forms of MD begin in the Retinal Pigment Epithelium, or RPE, a layer of cells underneath the retina. The RPE is responsible for passing oxygen, sugar and other essentials up to the retina and moving waste products down to the blood vessels underneath (these vessels are called 'the choroid'). MD occurs when this "garbage collection" breaks down and waste products from the retina build up underneath the RPE. These deposits, known as 'drusen', are easily seen by your eye care professional as yellow spots. In the early stages of MD, when drusen first appear, you may not realise anything is wrong and you may still have normal vision. That is the best time to detect the disease.



## Symptoms

Macular Degeneration can only be diagnosed by examining the retina. This must be undertaken by an eye care professional. If you have any of the following symptoms, you should seek help immediately from an eye care professional:

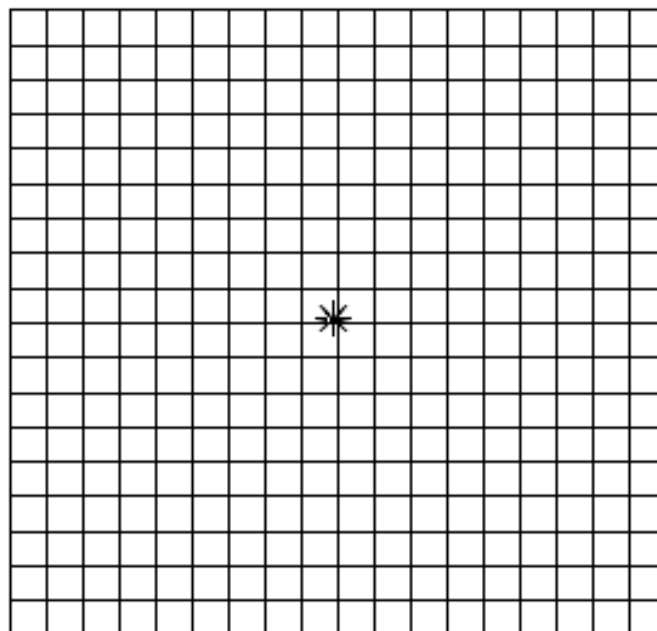
- Difficulty in reading or doing any other activity which requires fine vision
- Distortion where straight lines appear wavy or bent
- Distinguishing faces becomes a problem
- Dark patches or empty spaces appearing in the centre of your vision

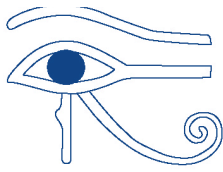
The need for increased illumination, sensitivity to glare, decreased night vision and poor colour sensitivity may also indicate that there is something wrong.

Early detection is important. Symptoms should never be dismissed as part of just 'getting older'. Detecting changes early allows you to take steps to slow down the progression of Macular Degeneration. The Amsler Grid is an important tool in detecting any changes in vision.

## Amsler Grid eye examination

This is an Amsler Grid, which can be used to test for symptoms of MD.  
Do NOT depend on this grid for any diagnosis.





## Directions

1. Do not remove glasses or contact lenses you normally wear for reading.
2. Hold the grid approximately 35cm from your face in a well-lit room.
3. Cover one eye with your hand and focus on the centre dot with your uncovered eye.
4. If you see wavy, broken or distorted lines, or blurred or missing areas of vision, you may be displaying symptoms of MD and should contact your optometrist or ophthalmologist immediately.
5. Repeat with the other eye.

## Treatment Options for Wet MD

Wet Macular Degeneration (MD) occurs when abnormal blood vessels grow from the choroid into the retina. This process is called choroidal neo-vascularisation (CNV). Neo = new and vascularisation = vessel formation.

There are currently four proven treatments available for people with wet MD. The treatments are not curative and aim to keep the best vision for as long as possible. Treatments proven to be effective by controlled trials published in peer review journals

### 1. Lucentis (ranibizumab)

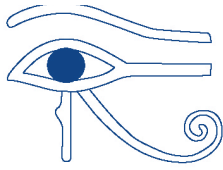
Blood vessels are prompted to grow by a protein called Vascular Endothelial Growth Factor (VEGF). Lucentis is an anti-VEGF drug which is injected into the eye at four week intervals and blocks this growth of blood vessels. Roughly 7/10 patients maintain their vision or notice improvement. Over one third still have vision in the affected eye that would enable them to legally drive a car.

### 2. Photodynamic Therapy (PDT) / Visudyne Therapy

This is a two step process combining a light-activated drug (Visudyne) and the light from a non-thermal laser directed on to the abnormal retinal area. Once activated, the drug causes the blood vessel to close off. PDT is a course of therapy and several treatments are needed to keep the leaking blood vessels closed and stop the progression of Wet MD. Unlike Lucentis (in which the vision is usually maintained), patients having PDT continue to lose vision in the first six months; their vision then stabilizes so that the eye does not go on to as severe vision loss. Patients with large, poorly outlined CNV respond poorly to PDT.

### 3. Laser Photocoagulation

This treatment consists of a concentrated light beam of high energy thermal light which is directed on to the retina to destroy and seal the leaky blood vessels. The laser not only destroys the new vessel (CNV) but also destroys the retina adjacent to the new vessel. Therefore it should only be



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used for treating new vessels that are not under the central vision. This is only a small percentage of patients who present with Wet MD.

#### **4. Retaane (anecortave acetate)**

This drug also inhibits the abnormal growth of blood vessels. This drug is administered through an injection behind the eyeball. It needs to be repeated every six months. The treatment appears to be as effective as PDT for some types of CNV. It has now been approved for use in Australia but no funding is available. The cost of the drug is \$1800 and does not include the cost of the procedure.