

## What is Macular Degeneration?

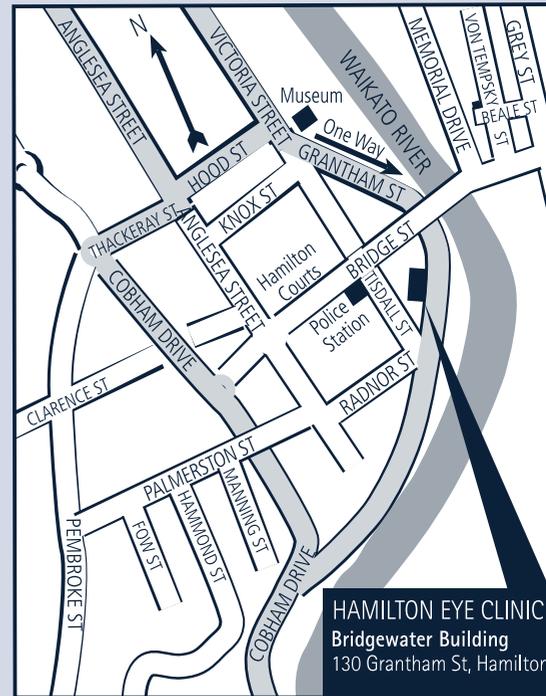
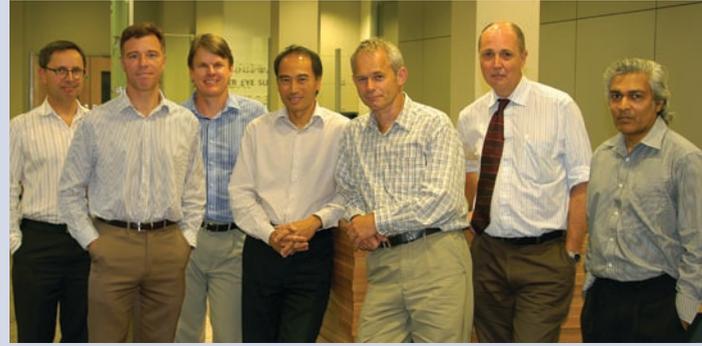
Macular Degeneration is a type of macula damage with progressive breakdown of the macular tissue.

The onset is a disturbance of the centre of vision. This ranges from a blur or distortion to a blind spot. Objects may appear distorted, larger or smaller or simply different. Distortion is waviness of straight lines. Colour may be altered.

Loss of vision usually starts slowly only in one eye and then later affects the other eye. If only one eye is affected, early changes may be difficult to detect in day-to-day life because the healthy eye can still see well. Only rarely does vision deteriorate rapidly.

It is only when both eyes are severely affected that detailed vision will become very difficult. Even with severe macular degeneration of both eyes, peripheral vision is still intact and enough vision is retained to enable many tasks to be continued. Almost all people with severe macula degeneration in both eyes can see well enough to take care of themselves and continue with activities that do not require detailed vision. It is very important to understand that macular degeneration *affects only the centre of vision and never leads to complete blindness.*

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HAMILTON EYE CLINIC



A guide to  
**Macular  
Degeneration**

Waikato's Specialist Eye Centre  
and Eye Surgery Facility



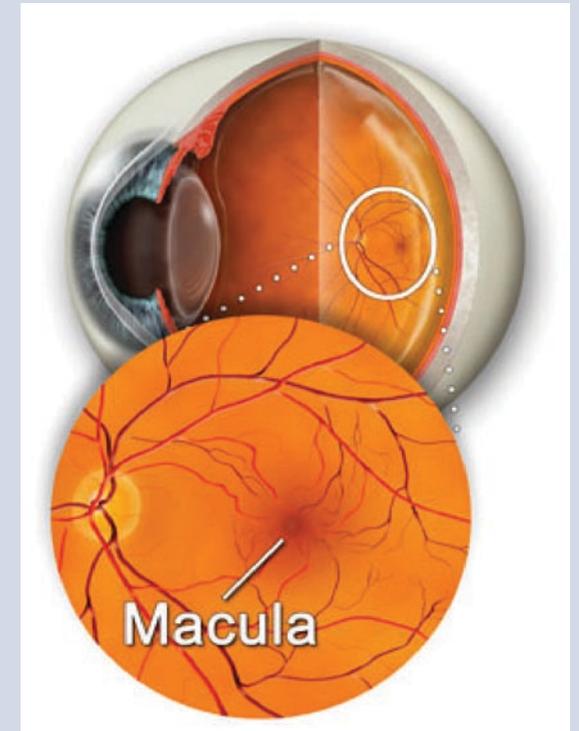
## Macular Degeneration

Macular degeneration is the leading cause of visual loss in over 60 year olds. It affects only central vision so there are difficulties with reading, driving and other fine, detailed visual activities.

## How the eye works

The eye functions like a camera with a lens system at the front of the eye focusing light on the retina, the light-sensitive layer lining the inside back of the eye wall.

The central part of the retina is called the macula. If the retina is likened to a dartboard, the macula is the bull's eye. The macula is the most sensitive area of retina and gives you central vision. Central vision is sharp and detailed allowing you to read, recognize faces and drive. The peripheral retina, surrounding the macula, is for side vision. It is less sensitive and only makes coarse visual distinctions but enables you to move about easily.



## Types of Macular Degeneration

There are two main types of macular degeneration, a dry and a wet type.

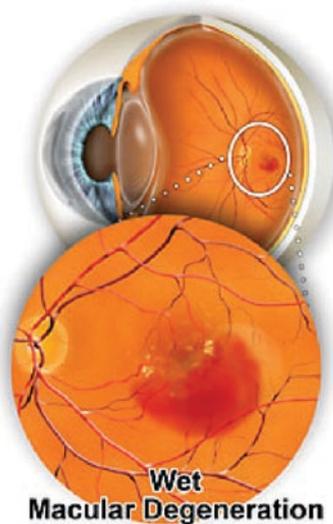
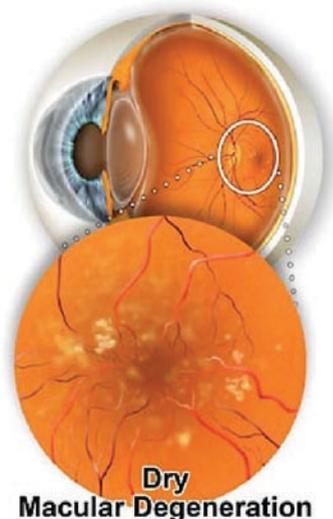
### 1. Dry Macular Degeneration:

Ninety percent of people with macular degeneration have this form. The light-sensitive cells of the macula gradually break down. There is slow loss of central vision which is usually mild to moderate and often begins earlier in one eye.

Some cases of dry macular degeneration change to the wet form. As the wet form can sometimes be treated it is important for patients with the dry form to regularly monitor their vision and report any changes.

### 2. Wet Macular Degeneration:

This occurs in 10% of cases but accounts for 90% of cases of severe central visual loss. Abnormal blood vessels grow under the retina and may leak fluid or bleed. When this occurs, vision suddenly worsens. As treatment must be given promptly, it is most important to monitor vision in each eye regularly and report any change in vision.



## Diet and vitamin supplements

People with a diet high in fruits, nuts, fish oils and vegetables (especially leafy, dark green vegetables) and low in red meat are less likely to have macular degeneration. Smoking is also a serious risk for visual loss.

Taking supplements such as vitamins C and E, beta-carotene (not to be used by smokers or ex-smokers) and zinc may lower the chances that macular degeneration will get worse in some patients. Therefore, many patients with macular degeneration should consider taking supplements. More research needs to be done on this subject and supplements are not recommended for all patients.

## Treatment of Wet Macular Degeneration

### 1. Avastin and Lucentis

These drugs suppress the growth of abnormal vessels under the retina. The drug is injected into the eye. A course of injections every 4-6 weeks will be needed. Treatment may be for a minimum of about 4 months but many need to continue for two or more years. These drugs are very effective and the first line treatment. All other treatments are alternatives if there is an incomplete response.

### 2. Photodynamic therapy (PDT)

PDT may be used as an adjunct to treatment with Avastin or Lucentis. A dye called Visudyne is injected into a vein in the arm and travels to the eye. It adheres to the abnormal vessels under the retina. The retina is then exposed to a low energy laser beam that selectively destroys the abnormal vessels without damaging the overlying retina. Several treatments are usually needed over a 2-3 year period to completely destroy the abnormal blood vessels.

## Monitoring your vision

You need to be on the look out for any change in symptoms in central vision and to have a prompt examination if any change occurs.

### Symptoms

**Blurred vision**- the change may be small - a blurred spot in the centre

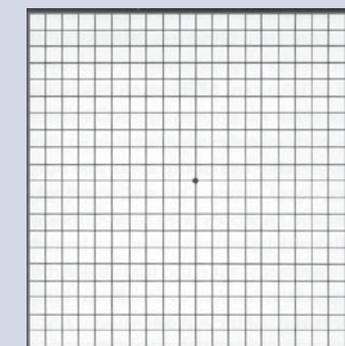
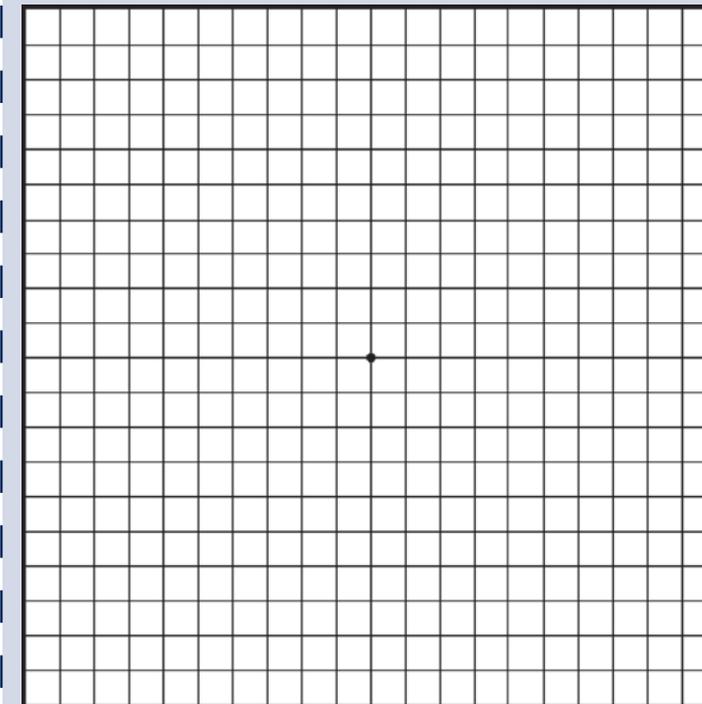
**Distortion**-straight lines become wavy

**Change in the size** of an object in the central vision-bigger or smaller.

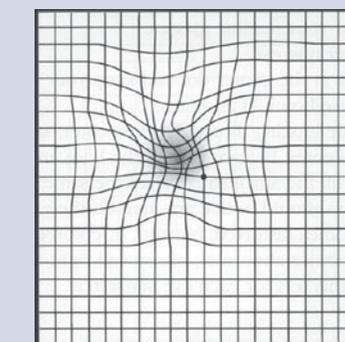
### Amsler Grid Self Test

This is a simple yet sensitive method for detecting change in your central vision. It is easy to do at home and is used regularly to monitor your central vision. Any deviation from a normal appearance indicates abnormality and needs to be reassessed promptly.

1. Use even illumination such as with a reading light.
2. Wear your reading glasses.
3. Hold the test sheet at reading distance (approximately 30 cm.)
4. Cover the other eye completely with your hand.
5. Look at the central dot. While keeping your vision fixed on the central dot.....
6. Are the lines of the grid straight in all areas?
7. Are the squares all the same size?
8. Are there any blurry patches?
9. Are there any gaps?
10. Are there any discoloured patches (grey or brown)?



A. Amsler grid with a healthy eye.



B. Amsler grid as seen with MD.