



## North Shore Eye Centre

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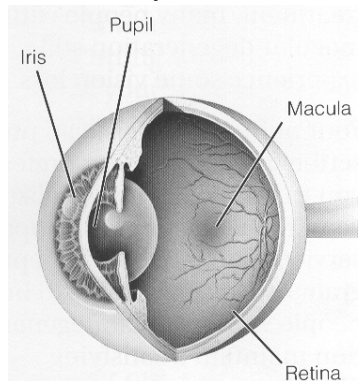
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# MACULAR DEGENERATION

## What is macular degeneration?

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Macular degeneration is damage or breakdown of the macula. The retina is the delicate layer of tissue that lines the inside wall of the back of the eye and the macula is a very small area in the centre of the retina. In size, the macula is about 3mm in diameter. This small area is responsible for our central "straight ahead" sight used for reading and other fine tasks.



When the macula doesn't function correctly, we experience blurriness or darkness in the centre of our vision. Macular degeneration affects both distance and close vision, and can make some activities - like threading a needle or reading - difficult or impossible.

Although macular degeneration reduces vision in the central part of the retina, it does not affect the eye's side, or peripheral, vision. For example, you could see the outline of a clock but not be able to tell what time it is.

Macular degeneration alone does not result in total blindness. People continue to have some useful vision and are able to take care of themselves. Nevertheless, macula degeneration is the leading cause of impairment of reading and fine "close-up" vision in Australia.

## What causes macular degeneration?

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Although the exact cause is not known, many older people develop macular degeneration as part of the body's natural aging process. Other contributing factors include:

- hereditary factors: increased incidence in people with a history of macular degeneration; and
- other factors relating to health and the environment are currently being investigated.

The two most common types of age-related macular degeneration are "dry" (atrophic) and "wet" (exudative), as explained below.



### ***"Dry" macular degeneration (atrophic)***

Most people have "dry" macular degeneration. It is caused by aging and thinning of the tissues of the macula, which leads to a relatively slow, painless loss of central vision. This form tends to be less severe.

### ***"Wet" macular degeneration (exudative)***

"Wet" macular degeneration accounts for about 10% of all cases. It results when abnormal blood vessels form at the back of the eye. These new blood vessels may leak fluid or blood causing the retina to lift up. This haemorrhaging leads to scarring which results in further damage to the retina. Changes in vision are therefore often more rapid and severe. In certain cases, laser treatment can be used to help control these leaking blood vessels.

## **What are the symptoms of macular degeneration and how can it be diagnosed?**

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Only your ophthalmologist can properly diagnose macular degeneration by doing an eye examination. However, you might experience some initial warning signs for macular degeneration.

The most common complaint is difficulty with reading which cannot be corrected by reading glasses. Other complaints are that people sometimes:

- see images appear blurred,
- have difficulties in distinguish colours,
- see straight lines appear distorted or wavy,
- see words or letters merge together when trying to read,
- experience that central or detailed vision is blocked by dark or empty spaces

In a more advanced stage of macular degeneration the common complaints include:

- struggle in reading large print,
- difficulties in recognizing faces,
- sensitivity to glare
- judging the speed and distance of approaching traffic when trying to cross the road.

Early detection and treatment of macular degeneration is extremely important. To see if there is any damage present in the macula your ophthalmologist uses a variety of tests and instruments.

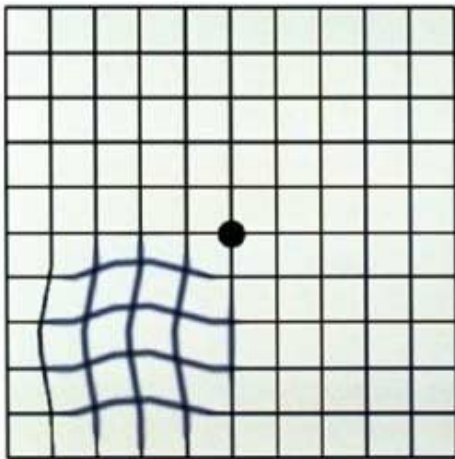


Figure 1: Straight lines look distorted.

These tests include the grid test, in which the patient looks at a test page with crossing lines and a black dot at its centre to reveal any distortions in your vision. A slit lamp is a special lens used by your doctor to view the front of your eye and your retina. Making it easier to see into your eyes, your doctor may use eye drops to widen your pupils. Sometimes a fluorescein angiogram is done. It is a photograph of your retina that can confirm wet macular degeneration. During this procedure the ophthalmologist injects a coloured dye into your vein. As the dye passes through the blood vessels in the back of the eye, a photo is taken.

## How is macular degeneration being treated?

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Certain types of macular degeneration can be treated using laser photocoagulation, a surgical procedure involving the application of an intense beam of hot laser light to seal and halt or slow the progression of leaking membranes and destroy blood vessels. Although this treatment can leave a small blind spot on the retina, it may help to preserve central vision.

Another treatment is the photodynamic therapy in which a non-thermal, or cold laser with an intravenous light sensitive drug to slow and prevent blood vessels from continuing to growth.

Unfortunately laser treatment is not useful for treating dry macular degeneration and there is no cure yet for this type of disorder.

## Why are regular eye examinations important?

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Your eye is an incredibly complex organ that processes millions of images every day, providing a panoramic view of your world. Regular medical eye examinations are extremely important for everyone, as eye disease can occur at any age. Often the patient does not realize symptoms unless the disease has done damage. An ophthalmologist is the doctor trained, educated and licensed to provide total eye care: medical, surgical and optical. Total eye care includes performing comprehensive medical eye examinations, prescribing corrective lenses, diagnosing diseases and disorders of the eye, and using the appropriate medical and surgical procedures necessary for their treatment.

It's your sight – your eyes deserve the best care available!