

MACULAR DEGENERATION (AGE-RELATED MACULAR DEGENERATION – AMD)

What is (age-related) macular degeneration?

The retina is the thin light-sensitive layer of tissue that lines the back of the eye; it relays the images that you see to the brain. The central area of the retina, called the macula, is responsible for clear, detailed central vision. Age-related macular degeneration (AMD) is a common condition that affects the central part of your vision. It usually only affects people over 60 years of age. It does not cause total blindness, but it can make everyday activities like reading, recognising faces and driving difficult. Without treatment, your vision may get worse. This can happen gradually over many years in the case of “dry” AMD, or quickly over days or weeks in the case of “wet” AMD. Multiple factors play a role in the development of this condition. Smoking, high blood pressure, being overweight and having a family history of AMD are implicated.

What are the symptoms of (age-related) macular degeneration?

Macular degeneration affects the central part of your vision only, and not the side (peripheral) vision. It usually affects both eyes, but you can have symptoms in only one eye. The first symptom is often a blurred and/or distorted area in your vision. If it gets worse, you might struggle to see anything in the middle of your vision. AMD can make things like reading, watching TV, driving or recognising faces difficult.

Other symptoms include:

- Seeing straight lines as wavy or crooked
- Objects look smaller than normal
- Colours seem less bright than usual
- Seeing a double-image

AMD is not painful and does not affect the appearance of your eyes. Sometimes AMD may be found during a routine eye test before you are aware of any symptoms.

How is (age-related) macular degeneration diagnosed?

AMD can be diagnosed by examining the retina and macula (usually after dilating the pupil with eye drops). Retinal photographs and special images called OCT (ocular coherence tomography) scans are very useful in diagnosing this condition. Retinal angiography, using a special dye (fluorescein) that is injected into the bloodstream, is often performed for “wet”/neovascular AMD. If you are diagnosed with AMD, the specialist will explain the type of disease that you have (“dry” or “wet”), and what your treatment options are.

Types of (age-related) macular degeneration

“Dry” AMD	“Wet” AMD
<ul style="list-style-type: none"> • Build up of “waste” product deposits (drusen) under the retina at the back of the eye • Common • Slow progression – usually over years • No treatment & no cure • Multivitamin & anti-oxidant combinations have been shown to slow progression in some people (25%) 	<ul style="list-style-type: none"> • Development of abnormal blood vessels under the retina at the back of the eye • Less common • Rapid progression – over days or weeks • No cure • Treatment can help stop vision from getting worse (90%), and sometimes improve vision (30%)

Treatment(s) for (age-related) macular degeneration

In both “dry” and “wet” macular degeneration a cure is not possible. It is only possible to limit/minimise the damage, and therefore an early start to treatment (if required) is very important.

Treatment depends on the type of AMD that you have.

- **Dry age-related macular degeneration (AMD)**

There is no treatment, but visual aids (magnifiers) can help reduce the effect on your life. This form usually progresses very slowly and the vision deteriorates slowly over a course of years. There is some evidence that certain multivitamin and anti-oxidant combinations (including zinc, selenium, and lutein) can slow down the progression of aging/degeneration, and thereby slow the loss of visual function in a small percentage of people (25%). Other than this, there are no other pharmaceutical agents or interventions that have any proven benefit.

- **Wet age-related macular degeneration (AMD)**

This form of disease can progress very rapidly and result in a sudden/dramatic loss of vision in days or weeks. In such cases it is important to stop this progression as quickly as possible in order to limit the damage. The aim is to block the abnormal blood vessels (choroidal neovascular membrane = CNV) to prevent further leakage or bleeding. This result is achieved by injecting medication directly into the eye (intravitreal injections).

Eye injections (injection of drugs into the eye)

- The eye is numbed with eye drops, ± local anaesthesia, and a small amount (0.05ml) of a special pharmaceutical agent/drug is injected into the back of the eye (the vitreous cavity).
- These agents/drugs block a substance called vascular endothelial growth factor (VEGF), and cause these abnormal blood vessels to stop leaking/bleeding and later close up permanently.
- Anti-VEGF agents include; Avastin®, Lucentis®, Eylea®, Visq®. They all achieve the same effect, but some may work for longer and therefore injections are needed less often.
- These injections stop the vision from getting worse in 90% of people, and there is improvement of vision in about 30% of people.
- The injections are usually given every 1, 2 or 3 months, and often need to be continued for a fairly long period of time; 2 to 4 years.
- Side effects include minor bleeding/redness on the outside of the eye, scratchiness/irritation of the eye, and very rarely bleeding inside the eye.

Photodynamic therapy (light/laser treatment)

- A laser light is used to destroy the abnormal blood vessels.
- Has been replaced largely by intravitreal injections, but sometimes used in combination with injections.

Living with (age-related) macular degeneration

Unfortunately it is not possible to cure you of this condition.

Help with low vision

- Various low vision aids or devices are available to help with your daily activities; such as magnifying lenses, and mobile phone applications/software that make your computer and phone easier to use.

- Low vision services can also help with useful advice and practical support, like changes to the lighting in your home.

Staying healthy

AMD is often linked to unhealthy lifestyle choices, so do your best to:

- eat a balanced diet
- exercise regularly
- lose weight (if you are overweight)
- stop smoking (if you smoke)

A healthy diet, with/without additional vitamin and anti-oxidant supplements, can slow down the progression of disease in some (but not all) patients.