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## Eyes - age-related macular degeneration

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### Summary

- AMD is a type of vision loss characterised by the distortion or absence of the central field of vision.
  - The two different types of AMD are 'wet' and 'dry'.
  - Dry AMD is age-related and accounts for about 90 per cent of cases.
  - There is no cure for AMD but treatment aims to preserve vision for as long as possible.
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Age-related macular degeneration (AMD) is a type of vision loss where there is a distortion or absence of the central field of vision. Peripheral (side) vision is usually not affected. AMD does not tend to cause complete blindness.

AMD is most prevalent in people aged 50 years and over. Most people affected by AMD can see well enough to live independently, but have trouble with tasks that require the ability to see fine detail such as sewing, driving and reading. Recognising faces may be difficult too.

About one in seven Australians over 50 show signs of AMD. The two different types of AMD are called 'wet' and 'dry'. Dry AMD accounts for about 90 per cent of cases. There is no cure for AMD. Treatment includes occupational therapy to help the person adapt to vision loss.

### Different types of AMD

The different types of AMD include:

- Dry (non-exudative, geographical atrophy) AMD
- Wet (neovascular) AMD

### Dry AMD

Early signs of dry AMD can be normal for ageing, and can have very mild symptoms, that improve with enhanced lighting. With advancing years, worsening of dry AMD disease causes an increase in symptoms, and can be a risk factor for wet AMD (see below).

The light-sensitive cells in the macula (centre of the visual field) gradually break down and this causes blurry vision in the centre of the affected eye. Vision loss tends to occur slowly over time. While doctors don't know what causes the macula to atrophy, the condition tends to run in families, which suggests that genetics may play an important role. Dry AMD is the main cause of vision impairment in older Australians, and can be severe in 10% of cases.

### Wet AMD

In wet AMD, abnormal growth of blood vessels leads to leakage of fluid and blood below the macula. This results in damage to the retina and in turn leads to the destruction of the light-sensitive cells that make up the macula. The blood vessels may also grow across the retina. Vision loss tends to be sudden and dramatic. Wet AMD tends to cause more severe vision loss than dry AMD.

### Symptoms of AMD

In its earlier stages, AMD does not cause any symptoms. In the later stages of AMD, symptoms depend on the type and severity of the condition. Generally speaking, common symptoms of AMD may include:

- Problems with close work such as reading
  - Distorted central vision (for example, straight lines look wavy)
  - Blurred central vision
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- Blank or dark spots
- Complete loss of central vision

### **Risk factors for AMD**

Risk factors for AMD include:

- Family history, particularly if the affected family member is aged under 50 years
- Smoking
- Being aged 75 years or over.

### **Diagnosis of AMD**

An eye specialist (ophthalmologist) can diagnose AMD in its early stages before the onset of symptoms. Tests used for diagnosis may include:

- Eye examination – including checking the clearness of vision with a letter chart (Snellen chart) and testing of your visual field
- Dilation of the pupil – with special drops so that the ophthalmologist can look at the retina
- Optical coherence tomography (OCT) – a technique where a special camera is used to take a cross section photograph of the retina.
- Fluorescein angiography – a photograph of the retina that is taken after the injection of a dye that highlights abnormal blood vessels in the eye.
- Indocyanine green (ICG) angiography – which is a similar test to the fluorescein angiogram but uses a different type of dye.

Fluorescein angiography is an important test for wet AMD because it determines if there are leaking blood vessels and it can help the ophthalmologist plan treatment.

ICG angiography may detect signs of wet AMD that cannot be seen with a fluorescein angiogram.

Dry AMD appears to have a genetic component, so the ophthalmologist may recommend a yearly eye test for every family member aged 40 and over. In most cases, early detection and treatment lead to better outcomes.

### **Treatment of AMD**

There is no cure for AMD but treatment aims to preserve vision for as long as possible. Treatment depends on individual factors including the type and severity of the condition and the person's general health and preferences.

#### **Treatment of dry AMD**

Currently, there is no effective treatment available to reverse the effects of the dry form of AMD. However, you should discuss diet, supplements and lifestyle options with your health professional.

#### **Treatment of wet AMD**

Options to treat the wet form of AMD include:

- Injections – the wet form of AMD may be treated with an injection of a drug directly into the eye. The drug helps to stop the abnormal growth of blood vessels. The majority of people treated are able to maintain their vision and some people's vision may even improve. This is done as an outpatient procedure so you don't need to stay in hospital overnight.
- Laser treatment – this technique seals and destroys the leaking blood vessels. It may be recommended if the leaking blood vessels are located away from the centre of the macula.
- Photodynamic therapy – a light-sensitive drug is injected into the veins in the arm and a specially designed laser is used to close off abnormal blood vessels in the retina.

### **Management of AMD**

Various options are available to help manage AMD, including:

- Vision aids – such as prescription glasses, magnifying glasses and telescopic devices to help the person live a more normal life. These devices are available from low vision centres but require a referral from the

ophthalmologist

- Occupational therapy – can help the person to live a more independent life. For example, the occupational therapist may train the person to use their peripheral (side) vision in a better way. They can also help them develop new skills and suggest changes to the home and workplace that may make their daily life easier
- Quitting smoking – cigarette smoking contributes to the onset of AMD and can hasten its progression. It is important to stop smoking immediately. See your doctor for help and information on quitting
- Lifestyle changes – suggestions include eating a healthy diet and exercising regularly.
- Wear sunglasses to protect your eyes from sun damage.

### Where to get help

- Your doctor
- Optometrist
- Ophthalmologist
- Vision Australia Tel. 1300 84 74 66
- Macular Degeneration Foundation Tel. 1800 111 709
- Retina Australia Tel. 1800 999 870
- Blind Citizens Australia Tel. (03) 9654 1400 or 1800 033 660

### Things to remember

- AMD is a type of vision loss characterised by the distortion or absence of the central field of vision.
- The two different types of AMD are 'wet' and 'dry'.
- Dry AMD is age-related and accounts for about 90 per cent of cases.
- There is no cure for AMD but treatment aims to preserve vision for as long as possible.

**This page has been produced in consultation with and approved by:**

Centre for Eye Research Australia

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