

Age Related Macular Degeneration (AMD)

What is the Macular?

The macular is located in the centre of the retina and is responsible for sharp, clear vision as well as the ability to perceive colour. The macular works in conjunction with the retina to provide sight and is responsible for central vision.

What is AMD?

With AMD, there is damage or breakdown of the macular, leading to loss of central vision. The condition makes it difficult to read, recognise faces, go about our daily lives or drive safely. The eye still sees objects to the side since peripheral vision is not affected.

AMD occurs in 'dry' and 'wet' forms. 80%-90% of AMD patients suffer from the 'dry' form, which is a slow progressive loss of central vision. The condition develops as the light-sensitive cells in the macular slowly break down with age. Wet AMD is caused by the growth of small, abnormal blood vessels under the retina in the macular. Wet AMD usually arises from a pre-existing dry AMD. These abnormal blood vessels leak blood and fluids resulting in disruption of the normal structure of the retina.

Symptoms

In early AMD, the impact on vision is generally mild and deterioration is gradual. Most patients with AMD will notice difficulty in reading as words become blurred or crowded. There may be a black or grey spot in central vision. Lines may begin to appear wavy and distorted and there may begin to have missing areas or shadows in vision.

How is AMD detected and monitored?

Many people do not realise they have macular problems until blurred vision becomes obvious. An eye specialist can perform a comprehensive dilated eye examination of the macular and identify AMD. If wet AMD is suspected, a special test called a fluorescein angiogram is done.

It is recommended that all people over 50 years old do regular checks for AMD using an Amsler Grid. This is easy to do and can be done at home. Changes in central vision may cause the lines in the grid to disappear or appear wavy, which is a sign of AMD. Patients should also monitor the progression of the disease using the Amsler Grid.

How is AMD treated?

At the moment, there is no cure for AMD. The goal of current therapy is to slow down the progression of the disease so that useful central vision can be preserved for as long as possible.

For wet AMD, treatment can stabilise the vision, however, the degree of improvement will depend on how early the disease is

detected and the response to the treatment. Currently, the most common treatment for wet AMD is in the form of drugs injected into the eye.

For dry AMD, supplements have been shown to help slow down the progression in high-risk eyes. The world's most definitive clinical research for dry AMD is the Age-Related Eye Disease Study 2 (AREDS-2) which was published in 2013. AREDS-2 clinical research investigated over 4,000 participants over many years. The trial was conducted by the National Eye Institute (NEI) in the United States and followed on from the breakthrough AREDS-1 trial published in 2001.

AREDS-2 research demonstrated positive results for lutein and zeaxanthin together with antioxidant nutrients and zinc, which may help defend against free radical damage to the macular region and help support the protective macular pigment of the retina. The recommended AREDS-2 formulation contains:

- 10mg Lutein
- 2mg Zeaxanthin
- 25mg Zinc
- 500mg Vitamin C
- 400IU Vitamin E (268mg α TE)
- 2mg Copper

Key nutrients in eye health

Lutein and Zeaxanthin intake increases macular pigment density. Lutein and Zeaxanthin are principal components of the macular, where they are collectively known as macular pigment and where they are believed to play a major role in protecting retinal tissues against oxidative stress.

Antioxidants act as 'free-radical scavengers'. Free radicals are common in the body, arising through a variety of mechanisms. Many of these free radicals are dealt with by the body's own free radical, antioxidant defences. Some free radicals, however, escape these defences and cause cellular damage. Research suggests that accumulation of free radical cellular damage can result in degenerative conditions. The antioxidants zinc and vitamins C and E play a significant role in defending against free radical damage in the macular region of the retina and lens of the eye.

What can be done to prevent and cure AMD?

- Have regular eye exams
- See an eye specialist if vision significantly worsens
- Eat a healthy diet, rich in lutein, zeaxanthin and antioxidants and consider specific eye supplements that contain the exact AREDS-2 formulation

This patient information leaflet is a general guide to help patients understand specific eye conditions, treatments or tests. The information does not replace the need for individual advice from an ophthalmologist or eye specialist.