

FACT: Macular Degeneration is the number one cause of permanent vision loss in people over the age of sixty.

Nutrition and dry AMD

Several recent studies have indicated a strong link between nutrition and the development of macular degeneration. The research suggests that you may be able to delay and possibly prevent intermediate AMD from progressing to the advanced stage.



Age-Related Eye Disease Study (AREDS)

In October 2001, the National Eye Institute (NEI) completed a large ten-year study called the Age-Related Eye Disease Study (AREDS). AREDS proved that people at high risk of developing advanced stages of macular degeneration **lowered their risk by about 25 percent** when treated with the following combination of antioxidant vitamins and minerals:

- 500mg of Vitamin C
- 400IU of Vitamin E
- 15mg of Beta-carotene (equivalent to 25,000 IU of Vitamin A)
- 80mg of Zinc as zinc oxide
- 2mg of Copper as cupric oxide.

AREDS researchers have also found that patients with the highest intake of **Omega 3** fatty acids had a **50% lower risk** of developing more severe macular degeneration.

Lutein Antioxidant Supplementation Trial (LAST)

Lutein and zeaxanthin are two carotenoids found exclusively at the macular region of the eye. Lutein is not made in the body and **must be obtained from our diet**. It is thought these carotenoids can improve visual acuity and reduce the chance of developing AMD by more than 50%. In 2004, LAST reported that macular pigment density increases by up to 45% and **visual function is improved** when diet is supplemented by either 10mg of lutein alone or in conjunction with other vitamins and minerals.

Grape Seed Extract, Bilberry Extract and Alpha Lipoic Acid

Although the evidence that these improve vision-related problems is still very weak, their popularity persists. They all have antioxidant properties which help ward off the free-radical damage frequently cited as the leading cause of AMD.

How can I obtain these vitamins and minerals?

Increasing your intake of foods rich in these vitamins and minerals (such as fresh fruit & green leafy vegetables) will help. However, the high levels suggested may be difficult to achieve from diet alone. Therefore, taking a specifically designed food supplement



For more information on AMD and living with sight loss contact:

Royal National Institute of the Blind

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www.rnib.org.uk

Macular Disease Society

PO Box 1870, Andover SP10 9AD

www.maculardisease.org

Fight for Sight

1st Floor, 36-38 Botoolph Lane, London EC3R 8DE

www.fightforsight.org.uk

AMD Alliance International

www.amdalliance.org

Age Related Eye Disease Study

www.nei.nih.gov/amd/

Age-related Macular Degeneration (AMD)

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Where is the macula?

The macula is located in the centre of the retina, the light-sensitive tissue at the back of the eye. The retina converts light into electrical signals and sends these to the brain. It is the macular region of the retina which is responsible for detailed vision and colour perception.

What is age-related macular degeneration?

Age-related macular degeneration (AMD) is a disease that blurs the sharp, central vision you need for 'straight-ahead' activities such as reading, sewing and driving. It does not affect peripheral vision and does not cause any pain. There are two different forms of AMD: wet and dry.

Dry AMD

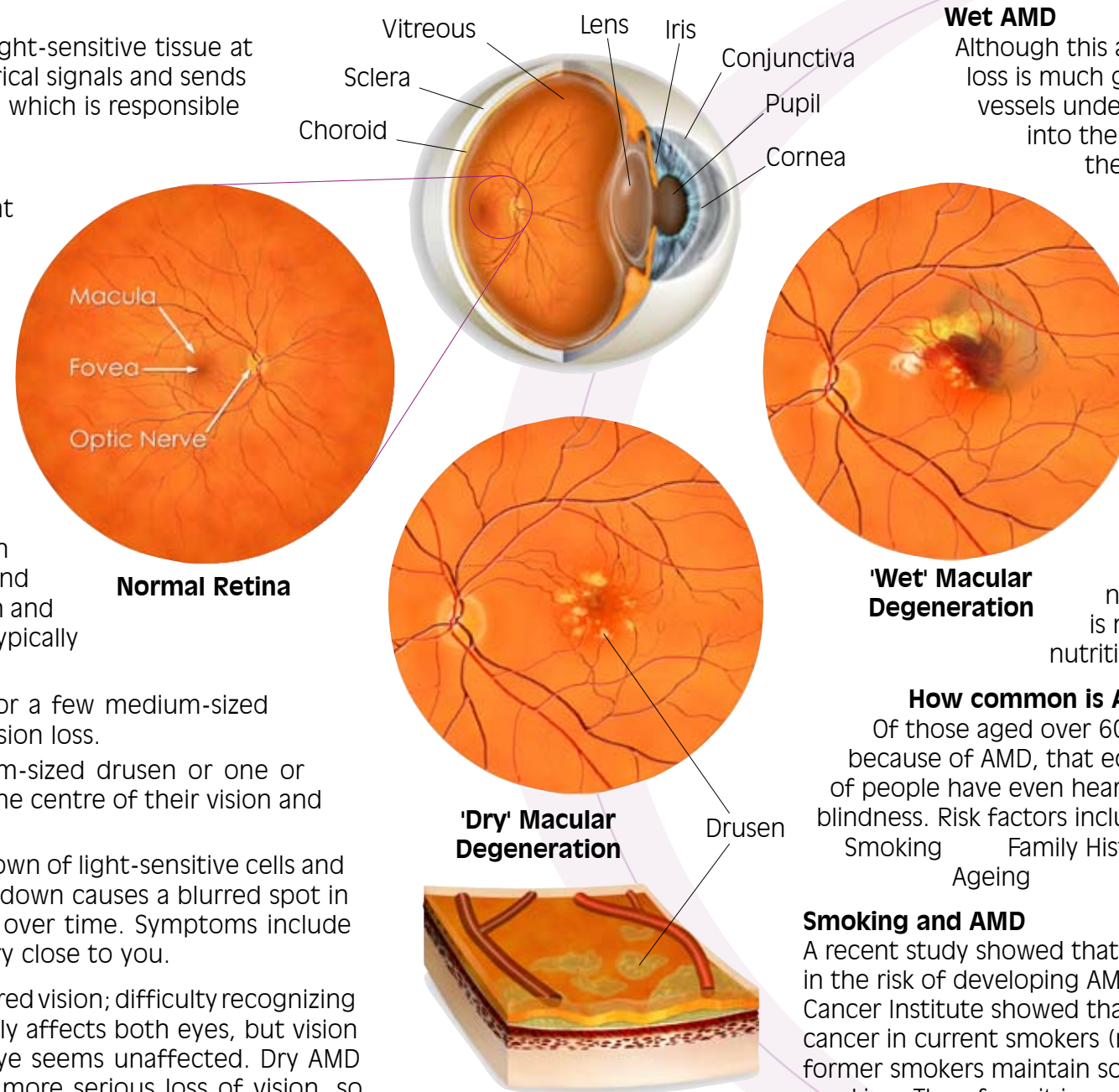
This is the more common form of AMD and accounts for about 90% of all cases. It develops gradually over time and usually causes mild to moderate loss of vision. Drusen, small fatty deposits, are a key sign of AMD and they accumulate at the central part of the retina in the tissues beneath the macula leading to thinning and drying. The extent of vision loss is related to the location and amount of thinning caused by the drusen. Dry AMD typically has three stages, which may occur in one or both eyes.

Early AMD: people usually have several small drusen or a few medium-sized drusen. At this stage, there are no symptoms and no vision loss.

Intermediate AMD: the retina now has many medium-sized drusen or one or more large drusen. Some people see a blurred spot in the centre of their vision and more light may be needed for reading.

Advanced AMD: In addition to drusen there is a breakdown of light-sensitive cells and supporting tissue in the centre of the retina. This breakdown causes a blurred spot in the centre of vision which may get bigger and darker over time. Symptoms include difficulty reading or recognizing faces until they are very close to you.

The most common symptoms of dry AMD are: slightly blurred vision; difficulty recognizing faces; needing more light for reading. Dry AMD generally affects both eyes, but vision can be lost in one eye more quickly while the other eye seems unaffected. Dry AMD may eventually develop into the wet form and cause more serious loss of vision, so regular eye examinations are still important.



Wet AMD

Although this accounts for only 10% of all AMD, the risk of severe sight loss is much greater. It is caused by the growth of abnormal blood vessels under the macula. These abnormal vessels leak fluid and blood into the tissue at the back of the eye, causing a blister to form in the retina. The resulting scar tissue leads first to distortion and eventually to loss of central vision. Wet AMD can rapidly damage the macula and result in a very quick loss of central vision. An early symptom of wet AMD is that straight lines appear wavy. If you notice this symptom or other changes to your vision, contact your eye care professional for a full eye examination.

Is there any treatment for macular degeneration?

In certain cases of wet macular degeneration, the leaking or bleeding vessels can be sealed with laser photocoagulation. It does not restore lost vision, but it may prevent further loss. Recently, photodynamic therapy has proven to be effective in stopping abnormal blood vessel growth in some patients with wet AMD and is now the treatment of choice in many cases. Although, there is no proven medical therapy for dry macular degeneration, nutritional supplements have been shown to be of benefit.

How common is Age-related Macular Degeneration (AMD)?

Of those aged over 60, it is estimated that 25% have some degree of visual loss because of AMD, that equates to more than 3 million people in the UK. Only 38% of people have even heard of the condition, despite it being a leading cause of blindness. Risk factors include:

Smoking Family History Macular Degeneration Gene Hypertension
Ageing Female Gender Prolonged Sun Exposure

Smoking and AMD

A recent study showed that in older people, smoking was linked to a two-fold increase in the risk of developing AMD. However, large clinical trials sponsored by the National Cancer Institute showed that beta-carotene (used in AREDS) increases the risk of lung cancer in current smokers (most were heavy smokers). Many studies also suggest that former smokers maintain some increased risk of lung cancer for years after stopping smoking. Therefore, it is reasonable to expect that beta-carotene may also slightly increase their risk of cancer, at least for a period of several years.