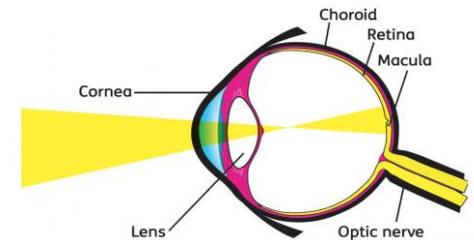




## Macular Degeneration [Eye Health]

**What is Macular Degeneration?** Age-related macular degeneration (AMD) is an eye condition that affects a tiny part of the retina at the back of your eye, which is called the macula (see the diagram). AMD causes problems with your central vision, but does not lead to total loss of sight and is not painful.

AMD affects the vision you use when you're looking directly at something, for example when you're reading, looking at photos or watching television. AMD may make this central vision distorted or blurry and, over a period of time, it may cause a blank patch in the centre of your vision.



**Anatomy of the Eye**

**Causes:** At the moment, the exact cause for AMD is not known. However, some things are thought to increase your chances of developing AMD:

**Age:** AMD develops as people grow older and is most often seen in people over the age of 65, although it can develop in people who are in their 40s and 50s.

**Gender:** more women have AMD than men, probably because women tend to live longer than men.

**Genes:** some genes have been identified that seem to be linked to the development of age-related macular degeneration in some people, although not all AMD is thought to be inherited.

**Smoking:** smoking greatly increases your risk of developing AMD. Studies also show that stopping smoking can reduce your risk of developing AMD.

**Sunlight:** some studies suggest that exposure to high levels of sunlight (particularly the UV light contained in sunlight) throughout your life may increase your risk of developing AMD. Wearing sunglasses to protect your eyes from the UV light in sunlight is a good idea for everyone throughout their life.

**Diet:** a number of studies have looked at diet as a risk factor for someone developing AMD. At the moment there isn't agreement on how much of a risk factor diet is. There is some evidence that vitamins A, C and E and zinc may help to slow the progression of AMD in people who already have the condition.

**Symptoms:** Symptoms vary from person to person, but usually the first problems people notice are with their ability to see detail. You may have problems reading small print, even if you wear your usual reading glasses, or you may find that there is a slight smudge in your sight or that your vision has a small blurred area in the centre. Straight lines may look distorted or wavy, or as if there's a little bump in them.

You may also find you become sensitive to bright light or that you see shapes and lights that aren't actually there. Sometimes people may only notice these changes in one eye. You should have your eyes tested by an optometrist (optician) if:

- **You notice any difficulty with reading small print with your reading glasses**
- **Straight lines start to look wavy or distorted**
- **Your vision isn't as clear as it used to be**

An optometrist will be able to measure any changes in your vision and examine the back of your eye. If they detect any changes to your macula or any cause for concern they will arrange an appointment with the ophthalmologist (hospital eye consultant) for further tests.

### **Diet and Lifestyle Advice for AMD and to for general eye health**

Although you cannot change your age or genes, current thinking is that protecting your eyes from the sun, eating a balanced diet with plenty of fresh fruit and vegetables, and stopping smoking may all help to keep your eyes as healthy as possible.

## Eat Lots of Vegetables and Fruits (from AMD.org)

Antioxidants, such as lutein (**see below**) protect against oxidation, which is a part of the process of AMD. Dark green leafy vegetables and fruits and vegetables with bright colours contain high levels of these critical antioxidants. Eat at least 5-9 portions a day in a ratio of 75% vegetables and 25% fruit.

## Eat Oily Fish (from AMD.org)

People who eat oily fish 2-3 times a week have a lower risk of AMD. Oily fish contain **omega 3 fats (EPA & DHA)** that are important for proper visual development and retinal function. Choose salmon, sardines, fresh tuna, anchovy, herrings or mackerel. If you cannot tolerate fish, an omega-3 supplement is another option. Fish oil capsules are widely available and have much better levels of EPA & DHA than cod liver oil.

## Limit Your Fat Intake (from AMD.org)

The amount of saturated fats in the diet is the real issue for AMD. The biggest source of saturated fat is animal products – beef, lamb, pork, butter, cream and high fat cheese. Plant oils also have saturated fats, such as palm oil. Instead, consume healthier fats like oily fish, olive oil, coconut oil or avocado.

## Other Key Nutrients

- **Lutein and Zeaxanthin:** These potent antioxidants may reduce the risk of chronic eye diseases, including age-related macular degeneration and cataracts.
- **Vitamin A:** Helps protect the surface of the eye (cornea) and it is essential for good vision.
- **Vitamin C:** As an antioxidant this can help to lower the risk of developing cataracts and can slow the progression of age-related macular degeneration and visual acuity loss.
- **Vitamin E:** Is thought to protect the cells of the eyes from damage by free radicals, which break down healthy tissue. In its most biologically active form it is a powerful antioxidant.
- **Zinc:** Plays a vital role in bringing vitamin A from the liver to the retina in order to produce melanin, a protective pigment in the eyes. Zinc is highly concentrated in the eye, mostly in the retina and choroid, the vascular tissue layer lying under the retina.

## Supplements

A 5-year Age-Related Eye Disease Study [2] (**AREDS2**) identified the following nutrients that most benefitted those with AMD. The daily supplement contains:

- 500 mg Vitamin C
- 400 IU Vitamin E
- 80 mg zinc
- 2 mg copper
- 10 mg lutein
- 2 mg zeaxanthin

## 11 Steps to Help Prevent Macular Degeneration:

1. Don't smoke.
2. Eat plenty of dark, leafy green vegetables, such as raw spinach, and other colourful vegetables.
3. Take a good quality balanced multivitamin and mineral supplement.
4. If you already have AMD, ask your doctor about the AREDS2 formulation or other supplements specially formulated for macular health.
5. Eat fish or take an omega 3 fish oil supplement.
6. Exercise regularly, and maintain a healthy weight.
7. Eat fruit and nuts daily.
8. Limit your intake of refined carbohydrates (high glycaemic index foods).
9. Keep your blood pressure under control.
10. Wear sunglasses outdoors to block UV and blue light that may cause eye damage.
11. Have regular eye exams.

**Please Note:** This handout should only be used as a guide to help inform you as to the diet and lifestyle modifications that **may** help to support, or to reduce the risk of AMD. It **should not** be used as definitive guide to AMD. If you think you may have AMD then please contact your medical doctor.