

# AGE-RELATED

# MACULAR DEGENERATION

## What is Age Related Macular Degeneration (AMD)

Age-related macular degeneration (AMD) is the leading cause of irreversible blindness in people over 50 years of age, affecting an estimated 500,000 people in the UK and over 12 million sufferers across Europe.

### What causes AMD?

Although the exact cause of AMD is unknown it is believed that damage by free radicals within the eye is an important factor.

## The most important and established High Risk Factors for AMD include:

- INCREASING AGE
- CIGARETTE SMOKING
- A FAMILY HISTORY OF AMD
- LOW MACULAR PIGMENT LEVELS
- OBESITY
- HIGH CHOLESTEROL
- HIGH BLOOD PRESSURE

*"Early detection and an effective programme of carotenoid supplements has never been more imperative...."*

*This eye disease is particularly frustrating because it results in a loss of central vision and you are therefore unable to read, watch TV, recognise faces or drive. Unfortunately, by the time some people are diagnosed, the disease may have been developing for 20 years or more.*

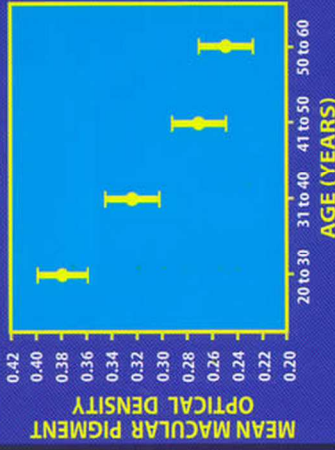
## What can be done to prevent AMD developing?

Some of the above risk factors for AMD are modifiable, people can stop smoking cigarettes, improve their diet and with new scientific research, many scientists believe that people with low pigment levels may be at risk later in life. It has been advised that people have their macular pigment levels checked from the age of 20 years onwards. Any protection that macular pigment may provide against AMD will need to be exerted in the young to middle aged. This is important, as the damage caused by blue light and free radicals takes place during a person's lifetime (between the age of 20 and 60 years) and not just in their later years.

## What is Macular Pigment and why is it so important?

There is an important and naturally occurring pigment at the back of the eye, known as macular pigment. This pigment is made up of 3 dietary compounds, known as lutein, zeaxanthin and meso-zeaxanthin. Macular pigment is yellow in colour and therefore absorbs damaging blue light.

Macular pigment is also a powerful neutralizer of free radicals, so it is perhaps unsurprising that this pigment protects the central retina from the ageing process. Indeed, there is a growing and compelling body of evidence that a lack of this macular pigment in the eye increases an individual's risk for developing AMD.



## What do Lutein and Zeaxanthin do?

Lutein and zeaxanthin are dietary carotenoids that filter damaging high-energy blue wavelength light from the visible-light spectrum by as much as 90%. Lutein and zeaxanthin are antioxidants and therefore protect against the damage caused by free radicals.

## Why is Meso-Zeaxanthin so vital?

Meso-zeaxanthin is the 3rd component of the macular pigment and is only found at the center where vision is sharpest. Meso-zeaxanthin is obtained by the conversion of lutein to meso-zeaxanthin in the macula. It is not found in a typical diet. Meso-zeaxanthin is being recognised as a more powerful neutralizer of free radicals than either lutein or zeaxanthin.

Supplementation with meso-zeaxanthin will ensure that this component of macular pigment accumulates at the target tissue (i.e. the central macula) in a way that is not dependent on an enzyme to convert lutein to meso-zeaxanthin. Indeed, such an enzyme may be lacking in some individuals.

**Be alert to the risks of Age-Related Macular Degeneration ....ask your Eye Care Professional about macular screening**