

**Nutrition:** Eat fresh fruits, dark green leafy vegetables. The role of antioxidants/zinc in retarding the progression is not very clear but supplementation with Vitamin C and E, zinc and selenium may have a positive effect.



**Sunlight:** Blue rays of the spectrum seem to accelerate macular degeneration. Sunglasses with good UV filters for outdoor activities are recommended.

**Smoking:** Quit smoking as this accelerates the process of wet ARMD.

**Early detection:** Daily monitoring of vision by Amsler grid. Report immediately to eye surgeon if any change is noticed (the development of wet type might need urgent laser treatment).

**Laser treatment:** In patients with the wet form of the disease early intervention is necessary to prevent loss of vision. The present day treatment modalities mainly aim at destruction of the abnormal subretinal new vessels by different forms of LASERs. Depending on the location of these vessels a different LASER has to be used. However, the aim of any kind of therapy is to prevent further deterioration of vision. Lost vision cannot be restored in most cases.

For lesions slightly distant from the centre of the macula conventional green LASER can be done. This generally leads to complete destruction of the vessels. Recurrence can occur in some cases.

For lesions that are directly under the center of macula either a Trans-pupillary Thermotherapy (TTT) or a Photodynamic treatment (PDT) has to be done.

**Trans-pupillary Thermotherapy (TTT):** This involves treating the vessels with a long duration low energy LASER that aims only to destroy the abnormal blood vessels and not the retina. It has been shown in various studies to prevent further loss of vision but is not hundred percent effective. Multiple sessions of the LASER treatment may be required.

#### Photo Dynamic Treatment (PDT):

This involves treating the vessels with a LASER after injecting a dye called Verteporfin. Verteporfin selectively enhances LASER energy absorption by the new vessels and thus prevents damage to the overlying retina. This dye is presently very costly. It might be required to repeat the therapy up to 3 times or more. International studies using this dye have found that it has prevented further loss of vision in many cases but it is still not hundred percent effective. **Low vision aids and lighting:** These are devices which can improve the quality of living by improving vision for day-to-day activities, specially reading. Special optical devices like magnifiers (hand held, desktops or in spectacles) can be used in various ways. Adequate lighting with 50 watt indoor bulb in metal shade will make reading more comfortable than fluorescent light.

*For further information, please contact your eye surgeons at Max Eye Care.*

S-347, Panchsheel Park, New Delhi-110 017,  
Phone: +91-11-2649 9870, 2649 9880  
Fax: +91-11-26499860, email: info@maxeeyecare.com  
[www.maxeeyecare.com](http://www.maxeeyecare.com)



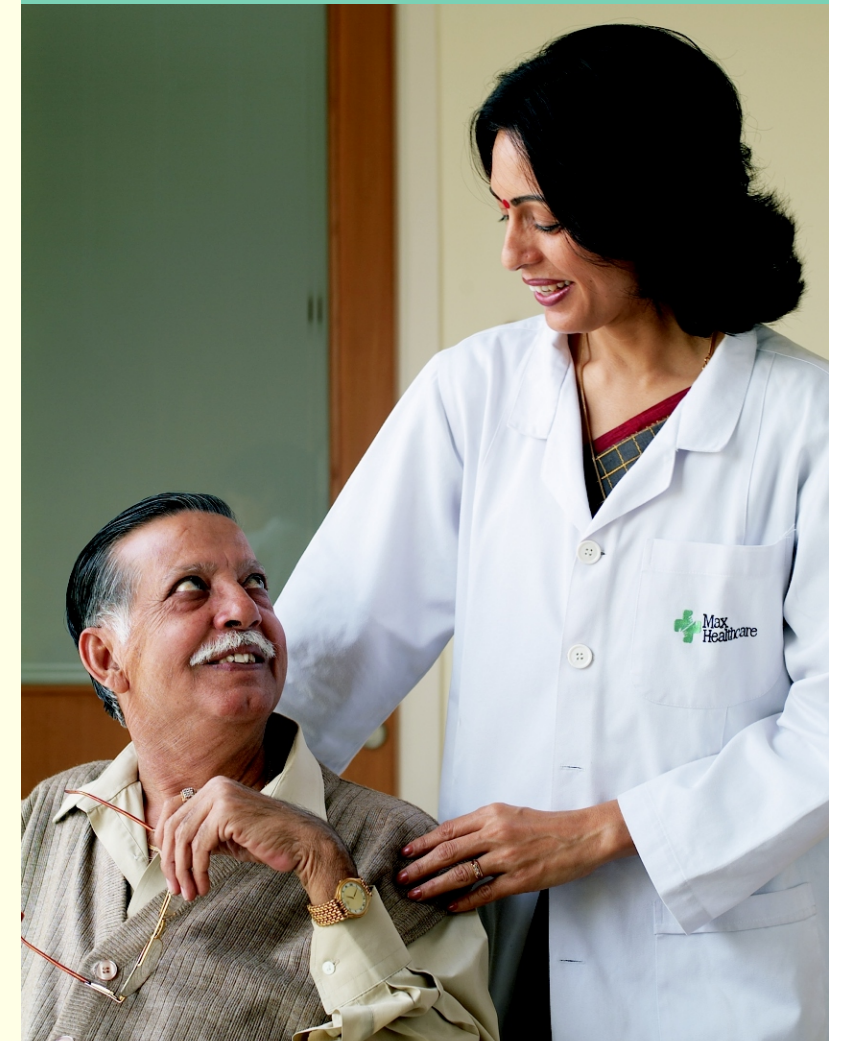
#### Other Max Facilities

- Max Devki Devi Heart & Vascular Institute, Saket, New Delhi, Ph:2651 5050
- Max Hospital, Noida Ph: 95120-254 9999, 253 5500 • Max Balaji Hospital, Patparganj, Delhi, Ph: 22230 5555 • Max Hospital, Pitampura, New Delhi, Ph: 2735 1844 • Max Eye Care, Panchsheel Park, New Delhi, Ph: 26499870
- Max Dental Care, Panchsheel Park, New Delhi, Ph: 26499870

*Coming up shortly*

- Max Hospital, Gurgaon • Max Super Speciality Hospital, Saket  
Phone: 91-11-2651 5050

## Age Related Macular Degeneration (ARMD)



## Age Related Macular Degeneration (ARMD)

To know about ARMD, let's begin by understanding the normal eye. Out of various image-forming components in the eye, retina is the light sensitive layer, lining the back of the eye from inside. It receives images of seen objects and transmits them to brain via optic nerves. The macula is a very small part in the central part of retina which is responsible for central vision. All the fine details such as recognising a face, reading, watching television or appreciation of colours are functions of the macula.

## What is Age Related Macular Degeneration (ARMD) ?

ARMD is degeneration of the most sensitive part of the retina (sensory part of the eye) called macula. It is mostly seen in people over the age of 50 years. Initially it is a silent disease and can affect one eye to begin with. At this stage it might be detected by an ophthalmologist on routine retina evaluation. Gradually vision loss increases mainly in the centre allowing better vision at sides, but makes reading or close work difficult without the use of special low vision aids.

ARMD is of two types: **dry and wet**. Dry type is more common and leads to a slow atrophy of the macula. Wet type of ARMD is the less common form and leads to formation of abnormal blood vessels and haemorrhage beneath the macula.

## Can ARMD lead to blindness ?

The dry form which is the more common variety generally does not lead to blindness, but can lead to a decrease in vision. The wet form which is the less common variety can lead to a marked fall in vision and blindness. The loss of vision occurs because of damage to the most sensitive part (macula) of the retina by blood and exudation.

## What are the causes and risk factors?

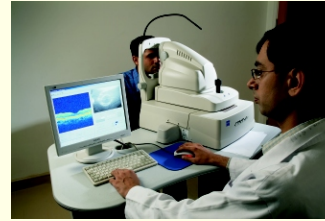
The exact cause of macular degeneration is not known, though, following risk factors have been identified: age, heredity, sex (women are more affected than men), light ocular pigmentation, hypertension, cardiovascular diseases, diabetes, photo toxicity and cigarette smoking.

## What are the symptoms of ARMD?

If only one eye is affected to begin with, the symptoms are not noticeable in early stages.

Early symptoms are metamorphopsia, i.e. straight lines appear to be wavy and

appearance of a black patch in front of the eye. The patient says that he/she can perceive well around the patch but cannot see within the dark circle. There may also be a sudden or gradual painless loss of vision.



## Can it be detected in time ?

Since ARMD is a silent disease in the initial phase, it is picked up mostly in a routine examination by an ophthalmologist. The retinal examination done by an ophthalmoscope will show the findings of this disease process. To assess the condition in detail, certain other tests are done.

**Amsler Grid:** It is a test paper with graphic picture to be used at reading distance with near glasses on. This is used to check the extent of sight loss, dark spot, distortion or missing of straight lines. It is also given to the patient to take home so that he can monitor his symptoms at home and report immediately if there is any worsening.



**Fluorescein Angiography (FA):** The photographs of macula are taken after injecting a dye in patient's arm. The dye on reaching the eye helps to clarify the type and extent of disease, including details of abnormal vessels, leaks and membrane formations.

**Optical Coherence Tomography (OCT):** This is like an optical ultrasound of the eye. It gives the doctor information about the exact location and type of abnormal membranes that form beneath the retina. OCT and FA are also good tools for following up the progress of a case of ARMD.

## How can ARMD be prevented ?

There is no prevention of ARMD. Early detection is the key to prevent severe loss of vision. All individuals above the age of 50, especially if there is a family history of ARMD, history of cardiovascular disease, light ocular pigmentation, should get yearly retinal check up for the same.

Anyone experiencing following symptoms should consult an ophthalmologist immediately:

- Straight lines appearing distorted, specially in the centre of vision
- Dark blurry or white patch in the centre of vision
- Colour perception changes
- Any other changes observed during daily monitoring of vision by Amsler grid in high risk cases

**Smoking** is a risk factor and should be avoided at all costs if any of the above mentioned risk factors are present.

**Sunlight:** Blue rays of the spectrum seem to accelerate macular degeneration. Sunglasses with good UV filters for outdoor activities are recommended.

## How can ARMD be treated?

There is no permanent cure for ARMD. In some cases ARMD may be active and then slow down or even stop progressing for many years. The aim is to keep a check on progression of the disease and take measures to improve functional capability of the patient.