About Sight and Smile Centre

Sight and Smile Centre is a state-of-the-art eye and dental care facility established in 2008 in the heart of the Indian capital, New Delhi with the aim of providing world-class healthcare services at affordable costs to all sections of society. Located in Central Delhi, 100 metres from the Patel Nagar Metro station (on the blue line of the Delhi Metro transit system), the facility is also easily approachable by road. Vehicle parking facility is available. Spread over an area of 7200 sq ft, the centre is fully air-conditioned and has an elevator facility for patient convenience. It complies with all fire safety regulations. The comforting ambience, the warm atmosphere and cleanliness make it stand apart. Medical records of patients are maintained for future reference. The facility prides itself in having a fully-equipped ultra-modern eye operation theatre, which is one of the largest in the city. The centre is registered with the Directorate of Health, Govt. of NCT of Delhi and functions from 9 am to 9 pm (Monday - Saturday). Emergency services can be availed round-the-clock. Dr. Pankaj Malik heads the eye department while Dr. Jyoti Malik heads the dental department. It is our constant endeavour to provide such preventive and restorative services to patients that they have the best of sight and smile.

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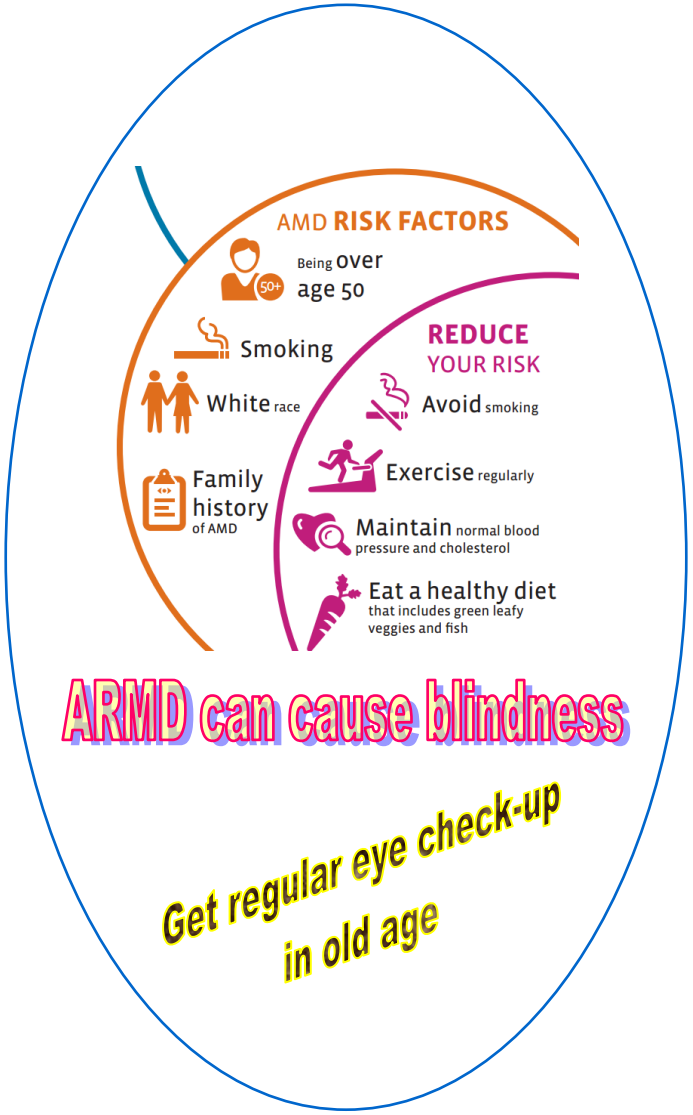
AGE-RELATED MACULAR DEGENERATION (ARMD)

A threat to sight in old age



About the retina

Retina is the light-sensitive innermost layer of the eye on which the image of whatever we see falls. It can be divided into two regions: the central (macula) and the peripheral. The macula is an area measuring around 5.5 mm in diameter and is responsible for central vision. Tasks such as reading, writing and sewing are accomplished with the help of the macula. The peripheral retina is responsible for side (peripheral) vision.

What is ARMD?

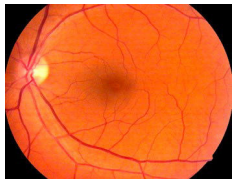
Age-related macular degeneration (ARMD) is a condition usually affecting adults over 50 years of age and resulting in loss of central vision owing to age-related damage to the macula.
ARMD usually involves both eyes, is slowly progressive and is a major cause of blindness and visual impairment in older age.

Risk factors for development of ARMD

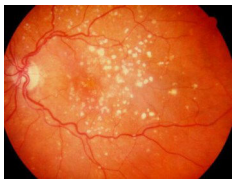
- Increasing age.
- Family history of ARMD.
- More common in women and in the white race.
- Smoking.
- Exposure to sunlight.
- Cardiovascular disease.
- Nutritional deficiency: Supplementation with antioxidants like vitamin C and E, and minerals like zinc and selenium can help protect against macular degeneration.

Types of ARMD

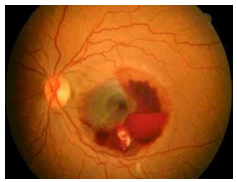
- **Dry ARMD:** Dry ARMD accounts for about 90% of all ARMD's. Ageing and thinning of the tissues of the macula leads to deposition of yellow-white proteins called drusens and causes gradual loss of vision.
- **Wet (neovascular) ARMD:** Wet ARMD accounts for 10% of all ARMD's but 90% of all blindness from the disease. In wet ARMD, abnormal, fragile blood vessels grow underneath the retina and form a choroidal neovascular membrane (CNVM) that leaks fluid and blood under the macula and may manifest as sudden loss of vision.



Normal retina



Dry ARMD

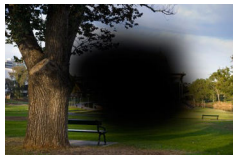


Wet ARMD

Symptoms of ARMD

In the early stages of ARMD, there may not be any decrease in vision. Symptoms, when they appear, are:

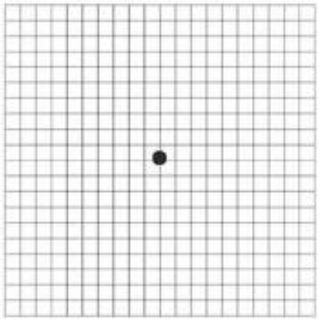
- Blurring of central vision.
- Distortion of objects: Objects appear unusually sized or shaped, and straight lines appear wavy or fuzzy especially in the centre of vision.
- A black spot or patch in the centre of vision.
- Impaired colour vision.
- Sudden, painless decrease in vision in wet ARMD.



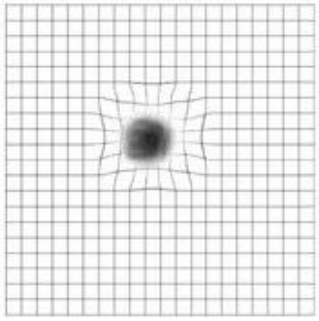
Dark spot in the centre of vision in ARMD

Diagnostic tests in ARMD

- **Amsler Grid:** It is a test page on which a grid pattern resembling a checkerboard is printed. The test can be performed by the patient routinely at home. After wearing reading glasses and holding the grid 30 cm from the eye, the patient should close one eye and focus on the dot in the centre of the grid with the open eye. While staring at the dot, the patient should look for areas in the grid that appear blurred, distorted, discoloured or missing altogether. If such areas are present, patients should immediately seek evaluation of their retina.

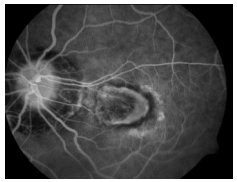


Normal Amsler Grid



Amsler grid in ARMD

- **Fundus Fluorescein Angiography (FFA):** FFA involves injecting a fluorescent dye (Sodium fluorescein) into a vein in the arm. As the dye passes through the retinal blood vessels, photographs of the retina in colour as well as in black and white format are taken in rapid succession by a special camera. FFA photographs capture the details of dye leaking from abnormal blood vessels and recommending treatment.



FFA in ARMD

- **Indocyanine Green angiography (ICGA):** In this type of angiography, Indocyanine green dye is used in place of sodium fluorescein dye. This dye provides a better view of the choroidal circulation and delineates the CNVM in the choroid.

CNVM as seen on ICGA

- **Optical Coherence Tomography (OCT):** OCT is a new non-invasive imaging technique which provides a high resolution cross-sectional view of the retina including the macula and helps in identifying the exact location of the choroidal neovascular membrane beneath the macula.

Treatment of dry ARMD

Dry ARMD has no definitive treatment. Most patients with dry ARMD are able to lead normal, productive lives. Antioxidants like lutein and zeaxanthin and nutritional supplements like Vitamins C and E, zinc and beta-carotene can lower the risk of progression to advanced ARMD and its associated vision loss.

Treatment of wet ARMD

- **Laser photocoagulation:** This procedure involves use of a high-energy laser to destroy the fragile, leaky blood vessels originating from the CNVM beneath the macula and stabilise vision. In *Photodynamic therapy (PDT)*, this is achieved by injecting a light-activated drug called verteporfin into a vein in the arm. Verteporfin is specifically taken up by the abnormal blood vessels and gets activated by non-thermal laser light.
- **Anti-VEGF therapy:** In eyes with wet ARMD, abnormally high levels of vascular endothelial growth factor (VEGF), a chemical that causes abnormal blood vessels to grow beneath the macula, are present. Anti-VEGF drugs, when injected directly into the vitreous cavity of the eye (intravitreal), block the effects of VEGF and thus reduce the growth of such blood vessels. Multiple injections may be needed, usually 6 weeks apart.
- **Surgery:** *Excision of CNVM* and *macular translocation* are the surgical options available but have shown limited benefit in terms of visual improvement.
- **Low vision aids (LVA):** LVA's are of help in enhancing the quality of life of patients with visual loss and enabling them to perform daily tasks.

Can ARMD be prevented?

ARMD occurs as part of the body's natural ageing process and is therefore not preventable. Regular eye-check up can help to detect ARMD early and treat, when necessary, in order to prevent severe visual loss. Protection of eyes from sunlight, eating a healthy diet with plenty of fruits and green leafy vegetables and quitting smoking may help to delay the occurrence and progression of ARMD.