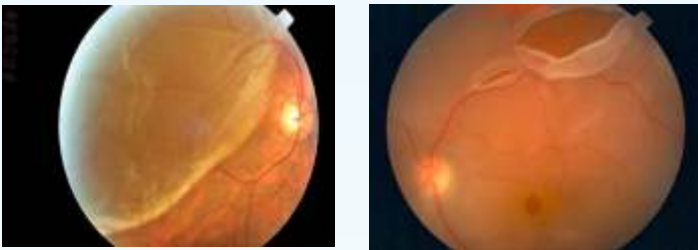


What is retinal detachment?

The retina is the light-sensitive layer of tissue that lines the inside of the eye and sends visual messages through the optic nerve to the brain. There is a jelly called vitreous which is present in the eye attached to the retina and supporting the retina. In case when the vitreous undergoes change to a liquid it separates from the retina, this is perceived as floaters or black dots in front of the eye.

In some cases there may be small areas of the retina that are torn when the vitreous has separated from the retina and pulled the retina. These **areas, called retinal tears or retinal breaks or retinal holes**, can lead to retinal detachment due to fluid of the eye leaking through this opening

When the retina detaches, it is lifted or pulled from its normal position. If not promptly treated, **retinal detachment** can cause permanent vision loss.



There are three different types of retinal detachment:

1. **Rhegmatogenous**
2. **Tractional**
3. **Exudative**

Who is at risk for retinal detachment?

A retinal detachment can occur at any age, but is more likely to occur in people who:

- Are extremely nearsighted with power of more than - 5
- Have had a retinal detachment in the other eye
- Have a family history of retinal detachment
- Have had cataract surgery

- Over the age of 40
- Have other eye diseases or disorders, such as retinoschisis, uveitis, degenerative myopia, or lattice degeneration
- Have had an eye injury

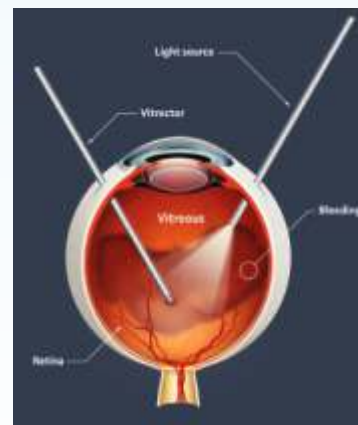
What are the symptoms of retinal detachment?

Symptoms include a sudden or gradual increase in either the number of **floaters**, which are little "cobwebs" or specks that float about in your field of vision, and/or light flashes in the eye. Another symptom is the appearance of **a curtain** over the field of vision. **A retinal detachment is a medical emergency.** Anyone experiencing the symptoms of a retinal detachment should see an eye care professional immediately.

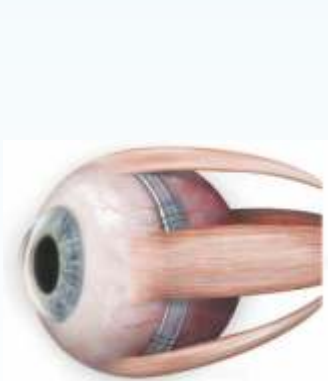
How is retinal detachment treated?

Small holes and tears are treated with laser or by a freeze treatment called **cryopexy**. These procedures are usually performed in the doctor's office. **Laser** is used to surround the break and seal it and / or "weld" the retina back into place. Cryopexy freezes the area around the hole and helps reattach the retina.

Retinal detachments are treated with surgery that may require the patient to stay in the hospital. In some cases a scleral buckle, a tiny synthetic band, is attached to the outside of the eyeball to gently push the wall of the eye against the detached retina. If necessary, a vitrectomy



VITRECTOMY



SCLERAL BUCKLE

may also be performed. During a vitrectomy, the doctor makes a tiny incision in the sclera (white of the eye). A small instrument is used to remove the vitreous. Silicon oil is injected in the eye to replace the vitreous and support the retina. Silicon oil is removed at alter date at the doctors decision. Sometimes Gas is used to support and reattach the retina. During the healing process, the eye makes fluid that gradually replaces the gas.

Prognosis

With modern therapy, over 90 percent of those with a retinal detachment can be successfully treated, although sometimes a second treatment is needed. However, the visual outcome is not always predictable. The final visual result may not be known for up to several months following surgery. Even under the best of circumstances, and even after multiple attempts at repair, treatment sometimes fails and vision may eventually be lost.

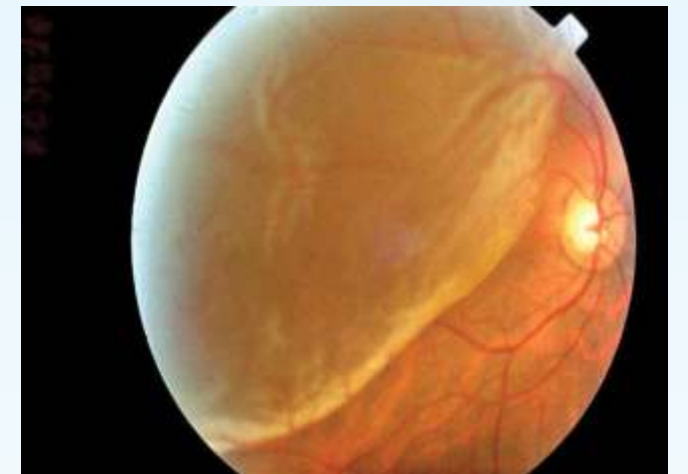
Visual results are best if the retinal detachment is repaired before the macula (the center region of the retina responsible for fine, detailed vision) detaches. That is why it is important to contact an eye care professional immediately if you see a sudden or gradual increase in the number of floaters and/or light flashes, or a dark curtain over the field of vision.

Prevention

Use protective eye wear to prevent eye trauma. Control your blood sugar carefully if you have diabetes. See your eye care specialist twice a year. You may need more frequent visits if you have risk factors for retinal detachment. Be alert to symptoms of new flashes of light and/or floaters.

ALWAYS GET YOUR EYES CHECKED TWICE A YEAR

RETINAL DETACHMENT AN OCULAR EMERGENCY



Dr. Urmil M. Shah

MBBS, DO, DNB (Gold Medialist), FNN (VR) FICO (London), FAICO (VR)
Vitreo Retinal Surgeon



Bharati Eye Clinic

Retina Center

A/2, Nikita Flats, B/h. Gopal Garage,
Near Aroma School, Ushmanpura,
Ashram Road, Ahmedabad-380 013.
Ph : (O) 27552314
Email : urmilshah2010@gmail.com

What is age-related macular degeneration?

AMD (age related macular degeneration) is a condition that occurs when cells in the macula degenerate. Damage to the macula affects your central vision which is needed for reading, writing, driving, recognizing people's faces and doing other fine tasks. This loss of central vision will severely affect normal sight.

Who gets age-related macular degeneration?

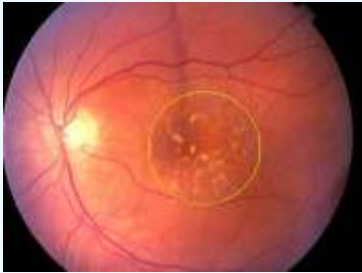
AMD can affect anyone. It becomes more common with increasing age. If you develop AMD in one eye, you have a high chance (about 6 in 10) that it will also develop in the other eye.

About 5 in 100 people aged over 65 have AMD severe enough to cause serious visual loss.

The two types of age-related macular degeneration

Dry AMD

This is the most common form. In this type the cells in the RPE of the macula gradually become thin, degenerate and dry. This layer of cells is crucial for the function of the rods and cones which then also degenerate and die. Typically, dry AMD is a very gradual process and usually takes several years for vision to become seriously affected.



DRY AMD

Wet AMD

Wet AMD may also be called neovascular or exudative AMD. It occurs in about 1 in 10 cases. However, it is likely to cause severe and sudden visual loss over quite a short time - sometimes just months. In wet AMD, in addition to the retinal pigment cells degenerating, new tiny blood vessels grow from the tiny blood vessels in the choroid. This is called **choroidal neovascularisation**. These vessels are not normal. They are fragile and tend to leak blood and fluid. This can damage the rods and cones, and cause scarring in the macula, causing further vision loss.

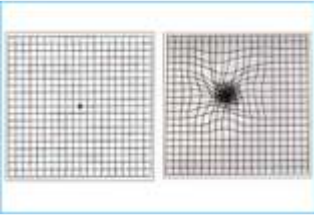
What causes age-related macular degeneration?

In people with AMD the cells of the RPE do not work so well with advancing age. They gradually fail to take enough nutrients to the rods and cones, and do not clear waste materials and byproducts made by the rods and cones either. As a result, tiny abnormal deposits called **drusen** develop under the retina. In time, the retinal pigment cells and their nearby rods and cones degenerate, stop working and die. Sometimes it also triggers new blood vessels to develop from the choroid.

Certain risk factors increase the risk of developing AMD. These include:

- Smoking tobacco.
- High blood pressure.
- A family history of AMD.
- Sunlight. (UVA and UVB rays).

What are the symptoms of age-related macular degeneration?



- The main early symptom is blurring of central vision despite using your usual glasses.
- In the early stages of the condition you may notice that:
- You need brighter light to read by.
- Words in a book or newspaper may become blurred.
- Colors appear less bright.
- You have difficulty recognizing faces.
- One specific early symptom to be aware of is visual distortion. Typically, straight lines appear wavy or crooked.
- A 'blind spot' then develops in the middle of your visual field.

Always see a retina doctor promptly if you develop visual loss or visual distortion.

How is age-related macular degeneration diagnosed?

The ophthalmologist will examine the back of your eye with a slit lamp microscope to evaluate your retina.

OCT is done to get very detailed '3D' information about the macula. It is also a useful test to assess and monitor the results of any treatment.

FFA (fluorescein angiography) is done in which a dye is injected into a vein in your arm. Then, by taking pictures with a special camera, the ophthalmologist can see where any dye leaks into the macula from the abnormal leaky blood vessels. This test can give an indication of the extent and severity of the condition.

Is there any treatment for age-related macular degeneration?

For the more common dry AMD, there is no specific treatment yet. There are, however, certain things that can be done to maximize the sight you do have and to improve your eye health. **Low vision rehabilitation and low vision services** are offered by hospital eye departments and information can be found from the National Institute of Blind People (RNIB). Stopping smoking and protecting the eyes from the sun's rays by wearing sunglasses are important. A healthy balanced diet rich in **antioxidants** may be beneficial, as may the addition of dietary supplements (see below for details). Remember that in this type of AMD the visual loss tends to be gradual, over 5-10 years or so.

For the less common wet AMD, treatment may halt or delay the progression of visual loss in some people. Newer treatments may even be able to reverse some of the visual loss. Treatments which may be considered include treatment with **anti-vascular endothelial growth factor (anti-VEGF) medicines**, **photodynamic therapy** and **laser photocoagulation**.

Anti-VEGF medicines

In recent years a group of medicines called **anti-VEGFs** has been developed. Vascular endothelial growth factor is a chemical that is involved in the formation of new blood vessels in the macula in people with wet AMD. By blocking the action of this chemical, it helps to prevent the formation of the abnormal blood vessels that occur in wet AMD. **Avastin and Lucentis** are two such injections.

The anti-VEGF medicines are injected using a fine needle directly into the vitreous of the eye. **Repeat Anti VEGF injections are needed every four weeks. A loading dose of 3 injections given a months interval is used followed by additional injections if required. On average a patient would require about 5-6 injections per year**



Photodynamic therapy

A medicine called **verteporfin** is injected into a vein in the arm. Within a few minutes the verteporfin binds to proteins in the newly formed abnormal blood vessels in the macula. A light at a special wavelength is then shone into the eye for just over a minute which activates verteporfin and causes damage, destroying the abnormally growing blood vessels (neither damaging the nearby rods and cones, nor any normal blood vessels).

Success means that the visual loss is prevented from getting worse - it does not restore any lost vision. Treatment usually needs to be repeated every few months to continue to suppress newly growing blood vessels. The main advantage that this method has is less damage to the normal retina.

Diet, dietary supplements, and age-related macular degeneration

Certain groups of people with AMD (both wet and dry types) can benefit from vitamin and mineral supplements. These supplements can slow down the progression of AMD.

A specific combination of high-dose vitamins and minerals has been tested and found to be most effective. The mixture includes vitamin C 500 mg, vitamin E 400 IU, lutein 10 mg, zeaxanthin 2 mg, zinc oxide minimum 25 mg and cupric oxide daily.

There is some concern that Beta-carotene has been found to increase the risk of lung cancer in smokers, so these supplements are not advised in either ex-smokers or current smokers. Zinc may increase the risk of developing bladder and kidney problems.

Practical help

When your vision becomes poor, it is common to be referred (by your ophthalmologist) to a low vision clinic. Staff at the clinic provide practical help and advice on how to cope with poor and/or deteriorating vision.

Help may include:

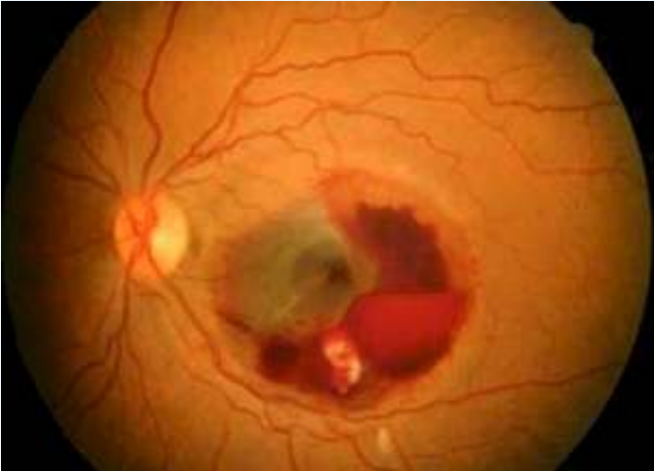
- Magnifying lenses, large print books, and bright lamps which may assist reading.
- Gadgets such as talking watches and kitchen aids which can help when vision is limited.
- Being registered as partially sighted or blind. Your consultant ophthalmologist can complete a 'Certificate of Visual Impairment'. You may then be entitled to certain benefits.

What else can I do?

- If you smoke, **try to stop**
- Eat a **healthy balanced diet** to try to make sure you get plenty of the types of vitamins that may help in AMD.
- Control Diabetes and blood pressure.
- Consider regular sight tests as you get older.

ALWAYS REMEMBER TO GET YOUR RETINA CHECKED TWICE A YEAR.

AGE RELATED MACULAR DEGENERATION



Dr. Urmil M. Shah

MBBS, DO, DNB (Gold Medialist), FNN (VR) FICO (London), FAICO (VR)
Vitreo Retinal Surgeon



Bharati Eye Clinic

Retina Center

A/2, Nikita Flats, B/h. Gopal Garage,
Near Aroma School, Ushmanpura,
Ashram Road, Ahmedabad-380 013.
Ph : (O) 27552314
Email : urmilshah2010@gmail.com