LASIK or switching to contact lens, you still have the effect of myopia on the retina, hence it is necessary to have regular checkup with your retinal specialist.

#### 3. Should I (myopes) restrict my activities?

Myopes, consider themselves suffering from a disease and restrict their activities, whereas the fact is that they too can lead a normal life without too much restriction of activities.

The only precaution they need to take is to have a thorough retina checkup with indirect ophthalmoscope by a retinal surgeon at regular intervals. Majority of myopic changes can go undiagnosed if the retinal evaluation is not done by indirect ophthalmoscope, which could cost your precious eye sight and consequently your life style.

#### **Macular Degeneration**

Another leading cause of loss of vision in elderly people is ARMD-Age Related Macular Degeneration. It affects people above the age of 65 years. However this can affect younger people also.

#### Symptoms:

- ☐ Loss of central vision and color vision (the visual loss could be either gradual or abrupt).
- □ Straight lines or objects appear wavy or crooked.
- While reading alphabets appear distorted.

#### **Types of Age Related Macular Degeneration:**

#### Dry Type: Gradual Vision Loss

This is most common cause of loss of vision. In this type the cells in the macular region do not work well, degeneration may occur causing gradual loss of vision.

#### **Treatment:**

No treatment possible. Patients are rehabilitated with magnification glasses called Low Vision Aids

#### Wet Type: Sudden Vision Loss

This occurs less often (10-15% of the cases), but the chances for severe sight loss is much greater. In this type there are new blood vessels, (called SRNVM Sub Retinal Neo Vascular Membrane) which grow beneath the macula for reasons not known, leaking fluid or blood. This accumulation of fluid or blood causes distortion of the objects viewed. This causes alarming reduction in vision. Treatment should be done at the earliest, by a vitreo retinal surgeon.

#### **Treatment:**

- Laser
- Photo Dynamic Therapy
- ☐ Intravitreal Injection of Anti VEGF
  - Accentrix Eyelea
- Avastin

# Photodynamic Therapy:

Photodynamic Therapy is preformed using Liposomal Benzoporphyrin derivative Monoacid, also know as Verteporfin, may provide a method for the treatment of CNV that can minimize damage to surrounding viable retinal tissue. Intravenous verteporfin, selectively localizes in neovascular tissue including CNV (Choroidal Neo- Vascularisation) and is not activated until light is shown on the target areas.

Non thermal laser energy is then applied beam Laser locally to the photosensitized CNV toproduce photochemical reaction. damage the endothelium and lead to vessel thrombosis.

Following entry into the blood vessel, Verteporfin, combines with lowdensity lipoproteins (LDL). Like tumor cells, vascular endothelial cells are rich in LDL receptors and this may explain the reason as to why verteporfin, a lipophillic compound is taken up by this tissue. Irradiation of target tissue by low intensity laser uses the dye to progress from a multiple ground state to an excited triplet state.

#### **Facilities For Macula Clinic:**

- □ Visulas 690s Laser from Carl Zeiss.
- ☐ Modified Iris Oculight SLX 810 Diode Laser
- □ 35 Field Angiography especially for macula.
- ☐ Instruments for Macula Rotation & Foveal Translocation.

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#### What is Myopia?

Myopia is a refractive condition in which the distance vision is blurred as the light rays are focused in front of the retina rather than on the retina. It is just an optical imbalance in the eye.

# How do you correct it?

It can be corrected using glasses, contact lenses or by LASIK.

1. Glasses of minus number are used. This is the simplest and easiest method of correction.

# **Advantages:**

- Easy to handle.
- ☐ Changes in refractive error can be corrected with a new pair of glasses or contact lenses.

# Disadvantages:

- ☐ The rim of the spectacle hinders the visual field (side vision) which could bother in very high powered glasses.
- Cosmetically not very acceptable.
- **2. Contact Lens** can also be used for correction of myopia. A lens of appropriate power is placed on the black portion of the eye (Cornea).

# Advantages:

- Patient can enjoy full field of vision.
- Cosmetically acceptable.
- Easily reproducible.

# Disadvantages:

- Needs patient motivation.
- □ Tolerance.
- Hygiene.
- Can cause allergy in the eye.
- Needs regular follow-up.
- 3) LASIK is the latest surgical technique for correction of myopia.

Its cutting edge, laser technology is used to reshape the front surface of the eye that is the cornea. This improves the way the light rays are focused and enhance ones natural vision.

# Advantages:

☐ Reduces dependance on external eye wear like glasses or contact lenses

# Disadvantages:

☐ There is a small risk of complication. However, majority of these can be managed so the quality of vision is not affected.

# What are the types of myopia?

The different types of myopia are:

- 1. Simple Myopia: The number usually remains constant.
- **2.** Progressive Myopia: There is usually an increase in the number, more so till the age of 18 years till there is body growth.

#### What are the common alarming symptoms noted by myopes? Even people having normal eyes can at times have these

# The common symptoms noted by myopes are:

- ☐ Flashes
- □ Floaters

# **Facts about flashes:**

- ☐ They are like lightening star or streaks of light that aren't
- ☐ Flashes are often caused by the vitreous (the gel filling the inside of your eye) pulling on the retina.
- ☐ A few flashes are seen by everyone from time to time. Sometimes they can be signs of other eye problem that
- ☐ As you age or if you are a myopic, you are more likely to see
- □ Sudden increase in flashes maybe a sign of problem in the eye. You need to consult your eye doctor immediately.

# **Facts about floaters:**

- ☐ They are dark specks, clouds, thread or spider web shaped structures moving in your field of vision.
- ☐ Most people see them once in a while.
- ☐ They may be pieces of gel or other material floating inside your eye. They are usually harmless.
- ☐ As you grow older you are more likely to notice floaters.
- I hey can also be caused by eye injuries.
- ☐ If they have appeared suddenly or increased in number, they may be a sign of eye problem that needs care. You need to consult an eye doctor immediately.

# What can happen to your retina in Myopia?

The following can happen to your retina in Myopia:

# 1. Lattice Degeneration:

Lattice degeneration are weak spots in the retina which are caused because of enlarging size of the eyeball. These could lead to retinal tear in patients with symptoms and family history of retinal detachment.

# Treatment:

The weak spots are sealed with laser or cryo treatment. It is treated only if the symptoms are present and the best person to judge is vitreo-retinal specialist.

# 2. Retinal hole or tear

# Causes:

- Injury.
- ☐ Lattice degeneration being left untreated.
- Spontaneous.

# **Treatment:**

Retinal hole or tear may need cryo or laser. (Refer to Topic on Retina).

# 3. Retinal detachment

Retinal detachment is separation of retina from the back wall of

# **Treatment:** Surgery

# How do you test your Peripheral Vision?

1. Cover your left eye with the palm of your hand and look at your right eye in a mirror.

MYOPIA

& MACULAR

**DEGENERATION** 

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- 2. While you are looking in the mirror, try to use all four corners and sides of the mirror without moving your eye up or down or from side to side.
- 3. Now, cover your other eye and perform the same test. You have just completed testing the peripheral vision of each eve. If you notice any peripheral vision loss, or any visual changes, distortion, or blur that was not present the day before, notify your eye doctor immediately.

# **MYTHS AND FACTS**

According to one school of thought, it was considered advisable to restrict myopic patients from bending down, reading in excess, seeing television and carrying heavy weights to prevent retinal detachment. The latest belief is that no such restriction is required; direct trauma should be avoided and the person should periodically have their eve checked. Retinal detachments occurs due to abnormal vitreo retinal relationship rather than due to reading. watching television, carrying weight or bending down. These could be just due to coincidence. A retinal detachment, on the other hand, can occur even during sleep. Restriction, if any, are laid temporally before and after surgery. Following this person can lead a normal

# The common queries in Myopia

# 1. If I see floaters or flashes, do I have to rush to my doctor?

Floaters or flashes are important signs of retinal tear or detachment. Though these symptoms may not be serious, it is better to consult an eye doctor, who is specialized in vitreo retinal diseases to rule out retinal detachment and for further treatment if

#### 2. If I undergo LASIK or if I switch to contact lens, do I still have same chances of developing retinal detachment?

You must clearly understand that neither the contact lens nor LASIK corrects your pathology associated with myopia. All they do is they correct the optical part of the myopia so in spite of undergoing