

The First Vertical Amsler Garden in the world was inaugurated on 28<sup>th</sup> January 2014 by Shri Sushil Kumar Shinde, Hon'ble Home Minister, Govt. of India & Dr. Neil Bressler, Chief-Retina Division & Professor of Ophthalmology & Editor in Chief of JAMA Ophthalmology.

## First Vertical "Amsler Garden" in the World



The Amsler grid is a diagnostic tool that aids in the detection of visual disturbances caused by changes in the retina, particularly the macula (e.g. macular degeneration, epiretinal membrane), as well as the optic nerve and the visual pathway to the brain. The original Amsler grid was black and white.

## Diabetic Retinopathy

### 1 What is retina?

Retina is like a film within a camera. Visual impulses are received here by specialized cells and transmitted to the brain via the optic nerve. The Macula is the area of the retina that is responsible for vision.

### 2 What is diabetic retinopathy?

- The most common eye complication in diabetes is diabetic retinopathy; the other complications are early cataract and glaucoma.
- Early detection and timely treatment of diabetic eye disease significantly reduces risk of vision loss.
- Diabetic retinopathy produces visual symptoms only when it is very advanced. Since only an ophthalmologist can detect early signs of diabetic retinopathy, all diabetics should have a retinal examination at least once a year.

### 3 Will all diabetics develop diabetic retinopathy?

Any person with diabetes can potentially develop diabetic retinopathy, irrespective of type of diabetes; however it is observed that nearly half of the people with diabetes will develop some degree of diabetic retinopathy during their lifetime.

### 4 How does diabetes affect the eye?

Diabetes results in the weakening of blood vessels in the body. The tiny delicate retinal blood vessels are particularly susceptible. This damage of the retinal blood vessels, accompanied by certain structural changes in the retina, is termed diabetic retinopathy. This results in loss of vision.

### 5 How does Diabetic Retinopathy affect my vision?

Initially, diabetic retinopathy is symptomless ie

patients will have no complaints and they will have perfect vision. Due to this, regular visits for eye check are critical. At the same time there can be bleeding or swelling of retina. It is treatable only at early stage and this can be indentified only on examination by the ophthalmologists.

There are two main causes of vision loss in diabetic retinopathy:

**Diabetic Macular Edema:** Weakened blood vessels leak and accumulation of fluid in the retina cause swelling and exudation, resulting in moderate vision loss.

**Proliferative Diabetic Retinopathy:** When new abnormal blood vessels grow or proliferate, bleeding into the vitreous may occur with sudden severe vision loss. This is called vitreous hemorrhage. If repeated bleeding occurs, an abnormal growth of a scar may lead to contracture and pull on retina. This called as tractional retinal detachment (TRD).

- It may be that the visual impairment due to DME has already started to affect your ability to do everyday things like reading, shopping and driving.
- Most people would need to see their doctor regularly for test and treatment.

### 6 When and how frequent should diabetics have their retinal examination done?

If you have diabetes, you should have a detailed eye examination by a retinal specialist at least once every year.

- With No diabetic retinopathy - yearly checkup
- Early diabetic retinopathy - 6 monthly checkup
- Or as per ophthalmologist recommendation.

**7 What are the tests that can be undertaken for checkup of diabetic retinopathy?**

**A Indirect ophthalmoscopy:** The slit lamp examination provides a magnified view of the eye structures in detail, enabling diagnosis to be made for a variety of eye conditions. A hand held lens is used to examine the retina.

**B FFA:** It is an investigative procedure that supplements clinical evaluation. It involves injection of a dye into veins and photographing the retina with blue light.

**C OCT:** Optical Coherence Tomography or OCT is a technique for obtaining cross sectional images of retina.

**8 What are the treatment modalities?**

**There are various treatment options available for you as mentioned below:**

**1 Laser Photocoagulation:** The purpose of the treatment is to arrest progress of the changes within the retina and help to retain existing vision. By deliberately destroying some parts of the retina, photocoagulation helps regression of abnormal new blood vessels, thereby reducing the risk of vitreous hemorrhage/TRD.

**2 Anti- VEGF:** Vascular endothelial growth factor (VEGF) is secreted by cells that are oxygen deprived and stimulate the growth of these abnormal blood vessels. Anti- VEGF drugs block the VEGF from stimulating the growth of the new blood vessels which damage the rod and the cone cells.

**3 IV Steroids:** Intra vitreal steroids injection are used in diabetic retinopathy as Anti Inflammatory drugs.

**4 Vitrectomy:** New surgical techniques- vitreous micro surgery have been developed.

**9 What can I do to help my visual impairment due to DME?**

• **Monitor your own vision regularly**

At home, take note of any changes in your vision

• **Dealing with changes in your vision can be difficult- it's Ok to ask for support.**

• **Talk to family and friends about your vision and let them know if you are having trouble reading, getting around, taking medications or doing housework.**

• **Take care of your diabetes**

• **Controlling your blood sugar levels** is an important part of maintaining your vision and getting the most of your treatment.

• **Regularly monitor your blood sugar levels** to maintain your vision.

• **Take your medications as directed** by your clinician for both diabetes and for your visual impairment due to DME.

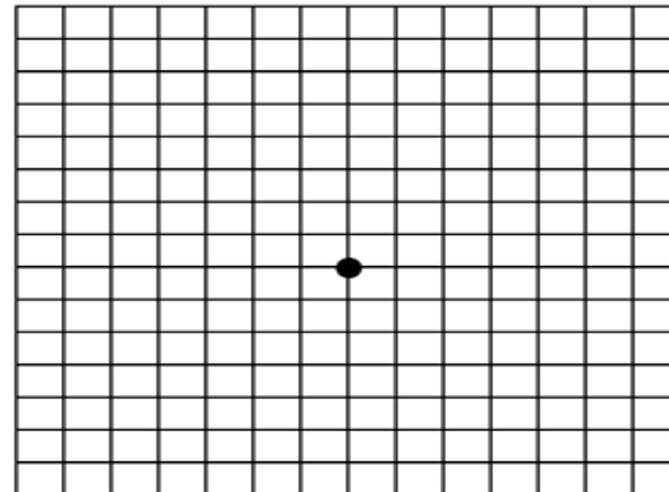
• **Manage your diet** your doctor who can tell you what you should and shouldn't eat and when you should eat.

**10 What can you do to protect your vision?**

Early detection of diabetic retinopathy is the best protection against loss of vision. Successful treatment of diabetic retinopathy also depends on treatment by an ophthalmologist, and on the patient's control of metabolic factors like blood sugar, blood creatine and blood lipid levels. Adherence to medical treatment is immensely beneficial in management of diabetic retinopathy.

**Always consult your doctor for any medical advice.**

# Amsler Grid



### How Use The Grid

- Hold the grid at your comfortable reading distance. Wear your usual reading lenses.
- Cover your left eye
- With the right eye, focus on the grid's center dot. Can you see all four corners of the grid without removing the gaze from the dot? Do all lines appear straight & continuous? (You may see white dots appearing intermittently at the intersection; these are normal optical illusion.)
- Repeat with the other eye.

Remember, if any areas of the grid seem wavy, blurred or dark it could be a sign of macular degeneration.

## Patient Information on Diabetic Retinopathy



**aditya Jyot**  
Eye Hospital Pvt. Ltd.

ISO 9001 : 2008



National Accreditation Board  
for Hospital & Healthcare  
Providers



Plot No- 153, Road No- 9, Major Parmeshwaran Road,  
Wadala (West), Mumbai - 400031, India

Tel: (+91 22) 24177600/ 6510290/ 24177602.

Appointments: +91 9833500580;

24/7 Service No:- 9920420066

Fax: (+91 22) 24177654.

appointments@adityajyoteyehospital.org

www.adityajyoteyehospital.org