

# DIABETIC RETINOPATHY

## What is diabetic retinopathy?

When diabetes affects the small blood vessels of retina is called diabetic retinopathy.

The retina is the inner most layer of the eye and acts like the film in a camera. The macula is the small central part of the retina that we use to see things clearly and is the part we are using now to read this leaflet. We use the rest of our retina to see things around us and to see in the dark. Blood vessels bring oxygen and nourishment to our retina. These blood vessels may be damaged in a number of ways if we have diabetes. Severe changes to the retinal blood vessels will affect the health of our retina and this can damage our sight.

## Why is diabetic retinopathy important?

- Diabetic retinopathy can affect our sight and is a **significant cause** of blindness in the working population.
- Laser treatment for sight-threatening retinopathy reduces the risk of losing sight but needs to be given at the appropriate stage and ideally before vision has been affected.

## Who can be affected by diabetic retinopathy?

- All people affected by diabetes are at risk of having diabetic retinopathy, irrespective of diabetic control.

## Who are at greater risk of having diabetic retinopathy?

- Those suffering from diabetes for a long time
- When diabetes is poorly controlled
- Associated high blood pressure
- Insulin dependent diabetes mellitus
- Addiction with tobacco and/or alcohol
- Associated with kidney disease

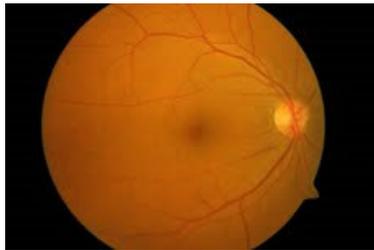
## What does diabetic retinopathy look like?

There are two types of diabetic retinopathy: **Non proliferative diabetic retinopathy** and **proliferative diabetic retinopathy**.

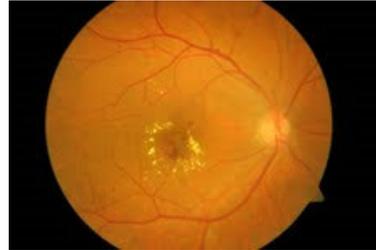
**Non proliferative diabetic retinopathy (NPDR):** Few haemorrhages and balloon like dilatation of arteries called microaneurysms noticed in retina. Few cholesterol crystals like deposits noticed called hard exudates

**Proliferative diabetic retinopathy (PDR):** New blood vessels appear in retina which are friable and causes bleeding

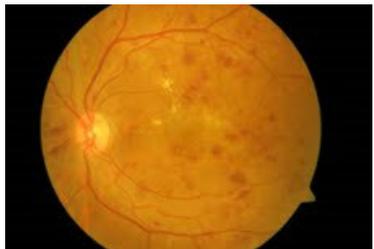
**CSME:** Clinically significant macular oedema is accumulation of water in the centre part of macula causes dimness of vision



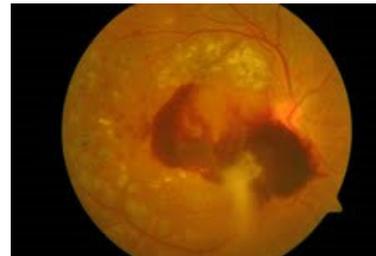
**Normal retina**



**CSME**



**NPDR**



**PDR**

### How will one know if he or she has diabetic retinopathy?

Diabetic retinopathy does not usually cause a loss of sight until it has reached an advanced stage. Even sight-threatening retinopathy that is close to affecting sight may not cause symptoms. In these cases, diabetic retinopathy is detected by the doctor after examining the retina, with direct or indirect ophthalmoscope, preferably after pupillary dilatation with drops.

One must get professional advice if one has any new problem with his sight such as:

- If sight suddenly gets worse, distorted or loss of part/whole of the vision
- Sudden increase in floaters in one's vision

### What are the Do's and Don'ts?

Diabetic retinopathy can get worse over time, but the following measures can help to reduce risk of developing diabetic retinopathy and to slow the progress of sight-threatening retinopathy

- Control blood sugar as effectively as possible
- See your doctor regularly to check that your blood pressure and lipid are not raised.
- Keep your regular screening appointment
- Get advise if you have a problem with your sight
- For your eyes and general health, you should also have your cholesterol levels checked regularly and avoid smoking

## What are the investigations required for treatment of diabetic retinopathy?

- Digital fluorescence angiography (DFA)
- Optical Coherence Tomography (OCT)

## What are the treatment options in diabetic retinopathy?

- Observation and regular checkup in early stages
- Laser photocoagulation
- Vitreoretinal surgery
- Intravitreal injections ( injection into the eye)

## What is the current magnitude of problem?

- No. of diabetics in India - 33 million and will reach 50 million by 2020
- 75% develop diabetic eye disease if duration of diabetes is >15 years
- Degree of diabetic eye disease is proportional to duration of diabetes
- 5%. of people > 50yr. has diabetes
- After 20yrs of type I Diabetes Mellitus - 99% develops diabetic retinopathy
- After 20yrs of type II DM - 60% develops diabetic retinopathy

## Pearls to Remember:

- Young patients have higher risk for developing retinopathy and so have greater risk for losing vision
- All diabetic patients should have their eyes checked up regularly at least once a year.
- Once the problem detected, the check up will be as per advise of retina specialist
- Diabetic retinopathy progresses with time but may not cause symptoms until it is quite advanced.
- Laser treatment for sight-threatening diabetic retinopathy can reduce the risk of losing sight.
- Proper control of diabetes can reduce the risk of developing diabetic retinopathy and also slow the rate of development.