

# Diabetes

One of the most distressing and difficult complications of diabetes is reduced vision. Diabetes is a leading cause of preventable blindness in the adult population.

## But you can help save your sight by:

- Good control of blood glucose levels
- Treatment of general medical conditions such as high blood pressure and/or abnormal cholesterol levels.
- Regular eye examinations.
- Reporting any rapid changes of vision.
- Checking with an optometrist or ophthalmologist about the possibility of more frequent eye examinations if you are pregnant as pregnancy poses additional risks.

## How does diabetes affect my sight?

Diabetes may cause damage to the eye's light sensitive lining, the RETINA, and produce changes called DIABETIC RETINOPATHY.

The retina is the delicate layer of blood vessels and light sensitive cells positioned at the back of the eye similar to the film in a camera. Images we see are formed on the retina itself, converted into electrical impulses, and pass from the retina to the brain along the optic nerve.

The central part of the retina, opposite the pupil, is called the MACULA. This part is the most sensitive and allows us to see fine detail.

The rest of the retina sees the less well defined images but gives us peripheral visual awareness, movement sensation and helps us see at night. If the retina is damaged by DIABETIC RETINOPATHY, the images formed on the retina are not detected by the light sensitive cells, some of the electrical impulses are not transmitted to the brain and our vision is reduced.

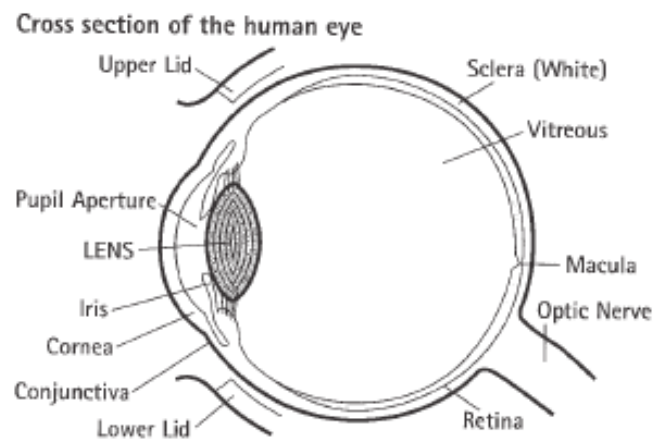
**YOU MUST HAVE AN EYE EXAMINATION EVERY 2 YEARS. YOUR OPTOMETRIST OR OPHTHALMOLOGIST WILL TELL YOU IF YOU NEED TO HAVE YOUR EYES EXAMINED MORE OFTEN. NEWLY DIAGNOSED PEOPLE WITH TYPE 2 DIABETES SHOULD HAVE AN EXAMINATION WHEN FIRST DIAGNOSED.**

It is important that you do not wait until you notice problems with your eyes before having them examined. Sometimes diabetic changes may be well advanced before this happens and impossible to treat.

## Diabetic retinopathy is simply disease of the retina.

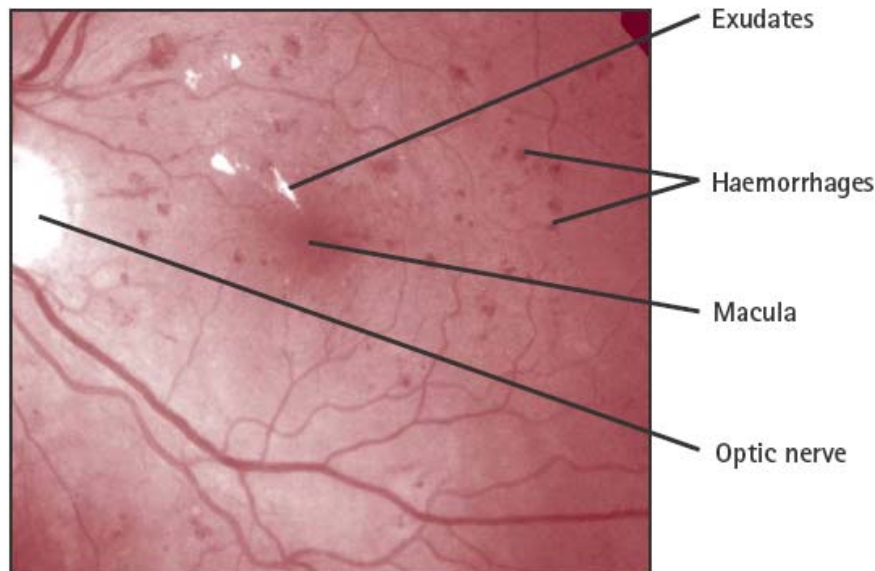
The early signs of diabetic retinopathy are quite common amongst those with diabetes. Often, these changes are minor ( non sight threatening) but require regular monitoring and their presence means special attention should be given to blood glucose control and treatment of other medical conditions such as blood pressure and abnormal cholesterol levels.

In the retina itself, diabetes causes the walls of the smallest blood vessels to weaken resulting in balloon like bulges called MICROANEURYSMS. Bleeding from these tiny blood vessels, (RETINAL HAEMORRHAGES) or leakage of fats (HARD EXUDATES) and fluid (RETINAL



OEDEMA) into the surrounding tissues may occur. If this leakage of fluid into the retinal tissue occurs at the macula (MACULA OEDEMA), vision will be reduced

In some cases, the early signs of diabetic retinopathy progress to a more severe form of eye disease called PROLIFERATIVE RETINOPATHY. If untreated, 50% of those affected will suffer serious visual loss. This stage is marked by the growth of very fine delicate new blood vessels (NEOVASCULARISATION) which bleed very easily. This bleeding causes varying amounts of visual loss and it may take considerable time for the vision to return.



Sometimes the bleeding results in the formation of scar tissue which contracts and pulls away the retina (RETINAL DETACHMENT). This is a serious sight threatening condition and must be treated promptly.

### **How can I get my eyes examined?**

Your optometrist can provide a comprehensive eye examination at any time. You can also ask your GP for information about diabetes care from practitioners such as optometrists, ophthalmologists, diabetes specialists or diabetic screening and monitoring services available in your area. Your GP can arrange referral to any of these.

### **How are my eyes examined?**

This is a simple procedure and involves drops which dilate your pupils so that the retina can be directly examined or sometimes photographed using modern digital cameras. The drops will blur your near vision and make your eyes more sensitive to light. You should bring a pair of sunglasses with you and although some people can drive afterwards, leaving your car at home or bringing a driver with you is often a good idea.

### **Can diabetic retinopathy be treated?**

You may need to be referred to an ophthalmologist for ongoing medical care and if diabetic retinopathy threatens vision, it will require laser treatment by the ophthalmologist. The laser seals leaking retinal blood vessels which cause damaging deposits of fat to occur in the macula. Laser also stops the growth of fragile abnormal blood vessels (neovascularisation) which may bleed and reduce sight suddenly. Newer treatments aimed at inhibiting the growth of new blood vessels may also be recommended.(Ex. Avastin. Lucentis)

Early detection of sight threatening retinopathy is extremely important so that laser treatment can be done at the optimum time as it mainly works by preventing and delaying further damage occurring. This type of treatment can be carried out on an outpatient basis.

Surgical treatment (VITRECTOMY) may be required if bleeding into the eye is causing persistent cloudy vision or scarring has occurred. Surgery is also required for retinal detachment. This is major eye surgery and requires a general anaesthetic.