

occurs when new blood vessels, which are formed in the back of the eye, produce scar tissue. This may lead to the retina becoming detached, causing severe loss of vision. This is much more common in the insulin dependent diabetes which is poorly controlled, but may also occur in the non-insulin form of the condition.

## When Should A Person With Diabetes Be Seen By An Ophthalmologist?

Every person with diabetes should be reviewed at least every two years by an Ophthalmologist, even if there is no visual defect. If minimal changes are present in a person's eyes, it is essential for these changes to be checked at least every year.

## Is It Sufficient To See My Optometrist If I Have Diabetes?

Optometrists give excellent primary eye care, but the eye changes and symptoms of diabetes cannot be separated from the general medical status. Under the guidelines of the National Health and Medical Research Council, if any retinopathy is present, then it is suggested that you be referred to a medically qualified eye specialist, even if the process is classified as 'mild'.

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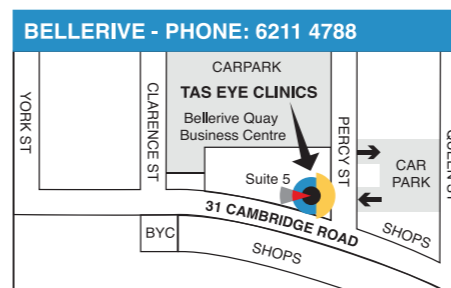
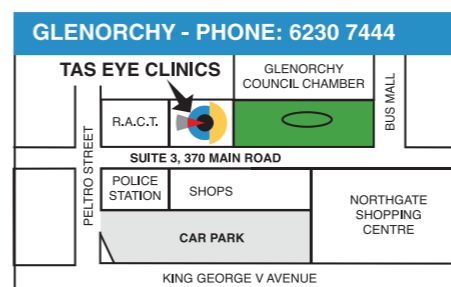
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## Diabetes

Diabetes is reported to affect between 2% and 4% of the population, especially as people age. The main types of diabetes are non-insulin dependent diabetes (sometimes called maturity onset diabetes or type 2) and insulin dependent diabetes (sometimes called juvenile or type 1). Non-insulin dependent diabetes is a far more common form of the condition than insulin dependent. About 15% of people, when diagnosed with diabetes, already have some changes in their eyes associated with the disease.

- *Diabetes affects between 2% and 4% of the population, ESPECIALLY as people age*

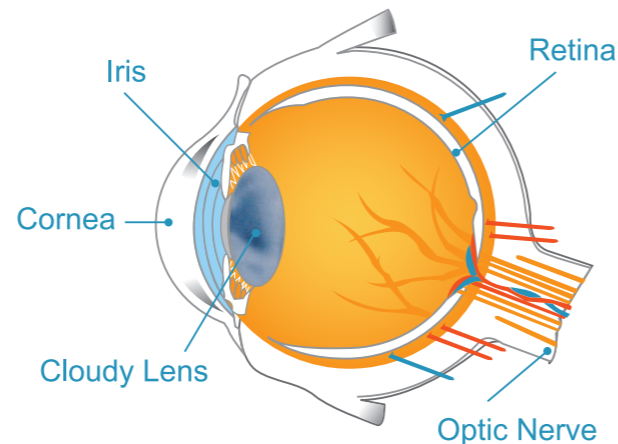
Diabetes can cause, or exacerbate, a number of visual problems. Diabetes can also cause significant fluctuations in blood sugar and alterations in vision. When a person's blood sugar rises, they tend to become short sighted; as it falls, they tend to become more long sighted.

The most common complication is cataract, caused by an increase in the normal ageing changes of the lens of the eye. Secondly, diabetes can cause people's eyes to become prematurely aged and therefore a person with diabetes may well need

glasses, or stronger glasses, earlier in their life than is usual. The third, and very important problem that occurs, is retinopathy.

Retinopathy is caused by the effect of diabetes on the small blood vessels in the retina. The retina is a nerve layer at the back of the eye which is illustrated in the diagram and is like the photographic film in a camera. The retina is stimulated by the rays of light that enter the eye and this stimulation is converted into an image that the brain can "see".

Diabetes causes, as a complication, leakage from these capillaries in the back of the eye. The vision can be affected by blood constituents, which enter the retina through the leaking vessels. Even the actual structure of the retina can be changed.



- *Retinopathy is caused by the effect of diabetes on the small blood vessels in the retina*

Retinopathy can be very mild or quite severe. The classic changes that occur are haemorrhages which can be followed by exudates, which are fats that leak out of the vessels. In severe form, abnormal blood vessels can be formed and leak fluid. These can cause scarring and even retinal detachment.

It is important that people with diabetes are assessed early in their disease. Even if they have no defect in their retina or their eyes, they should be reviewed every two years by an Ophthalmologist (medically qualified Eye Specialist). Patients with changes should be seen much more frequently.

- *People with diabetes NEED to be assessed by an Ophthalmologist EARLY in their disease*
- *People with diabetes should be reviewed every 2 years by an Ophthalmologist*

### Blood Pressure Control

It is important that people with diabetes have their blood pressure checked regularly. Blood pressure control must be kept at a very good

level to reduce vessel leakage. It is also important to control the amount of fat which is present in the blood. This is measured as serum lipids or cholesterol. These blood fats can leak out of the vessels into the tissue and cause even more damage.

### If I Am Diagnosed With Diabetes, What Should I Do?

If you are diagnosed with diabetes, you should be reviewed every two years, by an Ophthalmologist.

### What Can Be Done About The Process If I Should Develop Retinopathy?

If retinopathy is diagnosed early, rigorous control of the diabetes may well be enough to reverse the process. If the process continues, then laser treatment may be required to stop further leakage. Laser treatment, in the early stages, is relatively simple and often is all that is required to forestall the deterioration of the condition.

### Can Diabetic Retinopathy Ever Be Serious?

Yes, it can be, especially in patients who develop what is called proliferative diabetic retinopathy. This