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Understanding Diabetic Retinopathy

Diabetic Retinopathy is a form of visual impairment that occurs due to an increase in blood sugar levels. According to the NHS Foundation Trust, Diabetic Retinopathy is the leading cause of blindness in adults under the age of 65 in the UK. More than 13% of the people registered as blind suffer from this diabetic eye disease. Given the seriousness of the issue, the UK government has launched a national screening programme. This programme aims to detect diabetic eye disease at an early stage, so that it can be cured through vision correction treatments.

What is Diabetic Retinopathy?

Diabetic Retinopathy affects the vision by damaging or blocking blood vessels in the eyes. It particularly affects the retina, a thin layer of tissues that forms the wall at the back of the eye and is responsible for creating the sense of vision.

The space between the lens of the eye and the retina wall is filled with a transparent viscous liquid to help light travel

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across to the retina. During Diabetic Retinopathy, this space is blocked or damaged in a way that the retina cannot receive the incident light appropriately. This can happen due to the swelling of blood vessels, leakage of fluids in front of the retina or growth of new vessels inside the retina.

Stages of Diabetic Retinopathy

Diabetic Retinopathy is classified into different stages:

Mild Nonproliferative Retinopathy: In the early stages, microaneurysms emerge in the retina cells. This causes the retina cells to swell.

Moderate Nonproliferative Retinopathy: As the stage advances to the next level, the retinal nerves are blocked due to excessive swelling.

Severe Nonproliferative Retinopathy: At this stage, a majority of the retinal nerves are blocked, reducing the supply of blood in the retina. Thus, the nerves send signals to the mind for the growth of new blood vessels to compensate for the loss.

Proliferative Retinopathy: This is the final stage of the disease. At this stage, new blood vessels begin to form in the retinal wall. These vessels are not normal and their growth

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hampers the retina's surface as well as the viscous liquid in the front part of the retina, which aids vision. New blood vessels may leak blood into the liquid region or can cause accumulation of fluids.

Diabetic Retinopathy: Major Symptoms

The symptoms of diabetic retinopathy start showing at a late stage. According to reports published by the National Health Services (NHS), a majority of the patients experience blurred vision due to the accumulation of fluid in front of the retina. They also experience hindrances in their field of vision. If an individual faces such hindrances, which continue to exist despite washing the eyes with water, s/he should immediately consult an ophthalmologist. Light flashes or spots are also experienced by a majority of the patients. At an advanced stage, it causes partial visual impairment and later leads to blindness.

Diabetic Retinopathy: Treatment

A range of clinical examinations, such as angiography and retinal scanning, are carried out to test the onset of Diabetic Retinopathy. Today, technology has progressed to

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allow the use of laser treatment to dry up fluid accumulating in the retina. Proliferative Retinopathy will take hundreds of laser burns for vision correction. The development of new vessels and bleeding in the retinal nerves can be treated through surgery.

Timely treatment can lower the risk of blindness by almost 95%. Post-operative care should not be taken lightly. Those diagnosed with diabetic retinopathy might require eye examinations more often than usual.

Advancements in technology have led to various specialised eye treatments, such as cataract removal operations. However, prevention is always better than cure. Listed below are some general safety tips:

- Go for annual eye check-ups
- Maintain blood sugar levels at a moderate level
- Keep blood pressure at normal levels
- Ensure a diet rich in proteins and avoid fast foods
- Exercise regularly

Kathryn Dawson writes articles for Immaculate about understanding eye diseases. Annual eye checkups aid in early

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diagnosing of any problems, and if necessary, a vision correction surgery for diabetic retinopathy and cataract removal will be required.

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What Is Diabetic Retinopathy

Diabetes is a condition where there is too much sugar in the blood stream and not enough insulin to regulate it. Either the pancreas is not functioning correctly to produce the insulin or the tissue in the body does not respond to insulin in the way it should. Diabetes can affect young people or old people and can develop over the course of a lifetime. Anyone that has diabetes becomes more at risk to a variety of eye problems. One such important eye problem that can occur is diabetic retinopathy.

Diabetes can affect the blood vessels found in the eye. This can result in poor circulation of blood in the eye or even weakness of the blood vessel walls. If diabetic retinopathy has started to occur then there may be small haemorrhages

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visible in the eye. At this stage the eye sight is unlikely to be affected or impaired in any way. Sometimes the blood vessels continue to leak. This can cause the central macular area of the retina to swell up and this will begin to affect vision. The medical term for this stage of the disease is macular oedema and referred to as diabetic maculopathy. Treatment is vital at this stage to prevent permanent damage to the central macular area of the eye. This part of the disease is particularly common when a person has developed Type II diabetes – the more common diabetes that people develop as they get older.

Proliferative diabetic retinopathy is also very damaging to the eye. This is when there is a haemorrhage into the vitreous gel that fills the eye. This is due to a lack of oxygen reaching the retina, or more specifically the tissues in the retina. This is called ischaemia. The retina is forced to respond by growing blood vessels that are abnormal and are in danger of sudden bleeding. This is more common in Type I diabetes. If you have diabetes then you should make sure you have regular eye check ups. If your eye doctor can catch problems early then there is more chance that treatment can be given and any impairment to eye sight can be slowed or prevented.

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An even more serious type of diabetic retinopathy is when bleeding causes scarring between the retina and the vitreous gel in the eye. The scar tissue can contract and as it does so it can detach the retina from the eye wall. When this happens there is little that can be done to prevent total blindness. You should undergo regular screening so that any of these problems can be detected early.

Once diagnosed with diabetes, sufferers should make sure they have regular scans. If diabetic maculopathy is detected – where the retina has swollen up due to leaking blood vessels then small laser burns can be made to help dry the retina. There may also be cause for small injections of steroids into the eyes. Proliferative diabetic retinopathy which is caused by lack of oxygen in the tissues of the retina can be treated by hundreds of small laser burns to the outside edge of the retina. When there is bleeding into the eye then a surgical procedure known as a vitrectomy may be necessary. During the treatment the vitreous gel is removed and the points that were bleeding are prevented from doing so further with a laser.

It's possible that even those with very severe diabetic retinopathy conditions can have their sight saved with laser eye surgery. Lasik surgery can help fight against a whole

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variety of conditions. It can provide good macular degeneration treatment and glaucoma treatment too. When it comes to eyesight there are many problems and diseases that can affect it. Regular eye tests and screening should be had, especially for those who suffer from diabetes.

Kathryn Dawson writes articles about Optegra, one of the leading eye hospital operators in the UK providing treatment **diabetic retinopathy** and **macular degeneration treatment**. All procedures including **lasik surgery** are carried out in ultra-clean, theatre environments.

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