

Eye Health – your questions answered

Consultants from The London Clinic Eye Centre answer some common questions about eye health

Q What are the most common eye conditions and how do they affect vision?

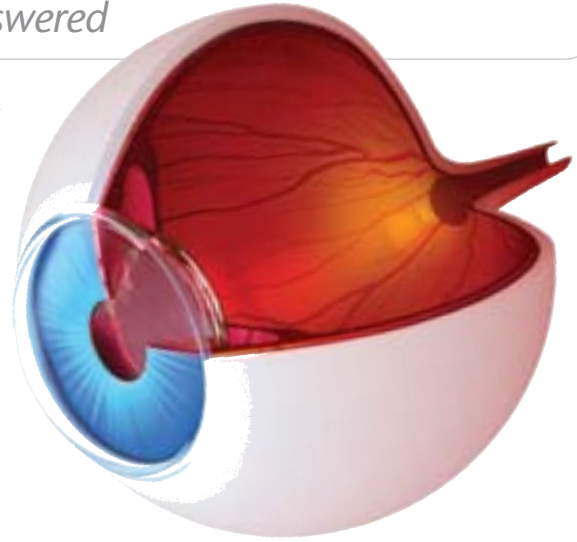
A There are many conditions that can affect the health of eyes and vision. Some of the most common are outlined below:

- **Macular degeneration** is a group of diseases that are characterised by the gradual breakdown of the macular, which is the central part of the eye responsible for vision and essential for reading, driving and recognising faces. The risk of developing macular degeneration increases with age, known as age-related macular degeneration or AMD, and is the most common cause of visual loss in people over the age of 60.

AMD occurs in two forms, dry and wet. Dry AMD is the most common form of the condition. It develops slowly, causing gradual loss of central vision. Wet AMD is associated with the growth of new fragile blood vessels beneath the retina that causes bleeding and scarring. This can lead to a sudden deterioration of vision. Wet AMD accounts for about 10% of all people with AMD [1] and it can now be treated, so early detection is therefore important.

- **Glaucoma**, which affects 2% of people over the age of 40 [2], is a condition in which the optic nerve is damaged at the point where it exits the eye. For the majority of glaucoma patients, the condition is caused by raised eye pressure. The optic nerve carries information from the retina – the light sensitive layer in the eye – to the brain, where it is processed to form a picture. Thus damage to the optic nerve causes gradual loss of vision. Treatment aims to reduce the pressure in the eye and there are a number of treatment options - including eye drops, laser treatment and surgery - with good success rates. There are several factors which increase the risk of developing glaucoma: increasing age, diabetes, Afro-Caribbean origin, family history of glaucoma and a high degree of short sightedness.

Mr Sanjay Shah,
Consultant Ophthalmic Surgeon



- **Cataracts** are a clouding of the part of your eye called the lens, which causes blurred vision that has been likened to looking through frosted glass. The most common type of cataract is age-related cataract but it can also develop in younger people as a result of conditions such as diabetes, longstanding eye problems and also taking certain medications. The causes of cataracts are unknown but links have been made to smoking, excessive exposure to sunlight and poor diet. The only effective treatment for cataract is an operation to remove the cloudy lens and replace this with a lens implant [3]. This operation is highly successful in most cases.
- **Retinal vascular diseases** such as diabetic retinopathy, is the most common cause of blindness in the working population. If you have diabetes, your sight will not necessarily be affected but evidence indicates that there is a higher risk of eye complications. An early diagnosis via a detailed eye examination is essential and all diabetics should therefore have an annual eye examination as a minimum.

Retinal vein occlusion is the second most common retinal vascular disease and is a blockage of the retinal vein that damages sight. Treatment options include aspirin and laser therapy. Factors that contribute to retinal vein occlusion include high blood pressure, atherosclerosis, and other conditions such as diabetes or glaucoma. [4]

- **Squint disorders** occur when the eyes are not aligned properly, for example one may turn inwards, outwards, up or down. When this happens, the eyes can no longer work together as a pair. This can happen at any age but is most common in children, particularly those who are long-sighted. Untreated squints can lead to poor vision (lazy eye) in the squinting eye and should always be assessed by an ophthalmologist. Often the sooner treatment (patches, glasses or surgery) is commenced, the better the results.

Q What new, cutting edge treatments are available for retinal and macular diseases?

A There are certain eye conditions and circumstances for which conventional therapy is not suitable or for which outcomes are sub-optimal.

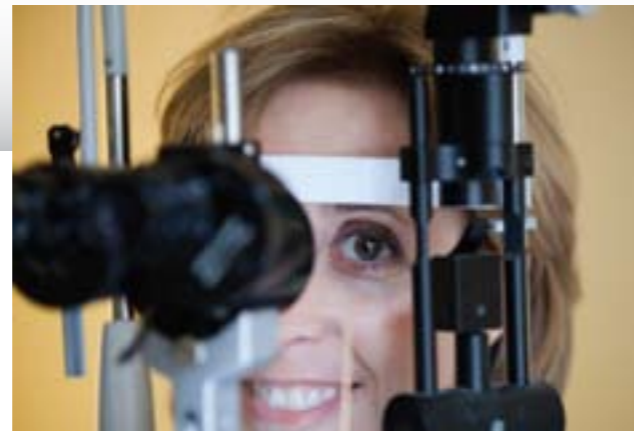
One condition attracting a lot of research interest is wet AMD. At present this disease is usually treated with regular injections of Lucentis or Avastin into the eye. A large number of new drugs are in development and many are being investigated in large clinical trials. Several of these will still need to be injected into the eye on a regular basis but ultimately it is hoped that longer acting drugs may reduce the need for such regular injections. Newer drugs may not need to be injected into the eye and may ultimately be available as eye drops, although it is likely that it will take several years before these move from small trials into common clinical use. There are also surgical devices that use radiation to treat wet AMD (epimacular brachytherapy) and others that aim radiation beams at the macula through the outer coats of the eye (stereotactic radiosurgery). Like many of the drugs, these new radiation devices are still undergoing large clinical trials.

There is also a lot of interest in eye injections for diabetic retinopathy and diabetic maculopathy, two conditions that can affect people with diabetes. The two most commonly used injections are Avastin and Lucentis and these may improve vision in people with sight-threatening diabetic eye disease.

A further exciting advancement in the UK is the anticipated introduction of the 'bionic eye'. During this procedure, which treats blinding diseases of the retina such as retinitis pigmentosa, light receptive chips are placed alongside the retina. This system is currently undergoing commercial clinical trials, and not yet available in the private sector. However, results have shown that this new technology gives rudimentary vision to people with severe loss of vision – an exciting advancement in eye surgery.

There are always a large number of new treatments under development at any one moment, for a range of eye conditions. Of the new treatments listed above, some are still in the laboratory, some are undergoing early clinical trials, and others have completed large clinical trials and are now licensed. Your ophthalmologist will be able to tell you which emerging treatments are most suitable for you.

Mr Tim Jackson,
Consultant Ophthalmic Surgeon



Q What is laser corrective eye surgery and how safe is it?

A Laser vision correction is intended to reduce an individual's dependency on glasses or contact lenses, which can be for a number of reasons:

- Short-sightedness (myopia), where the cornea, the clear covering over the iris and the lens, is steeply curved or the eye is longer than normal
- Long-sightedness (hyperopia), where the cornea is too flat or the eye is too short
- Astigmatism where the cornea is oval shaped instead of spherical

Laser surgery can help to correct all of these problems. There are two main procedures in use today with the most popular being LASIK.

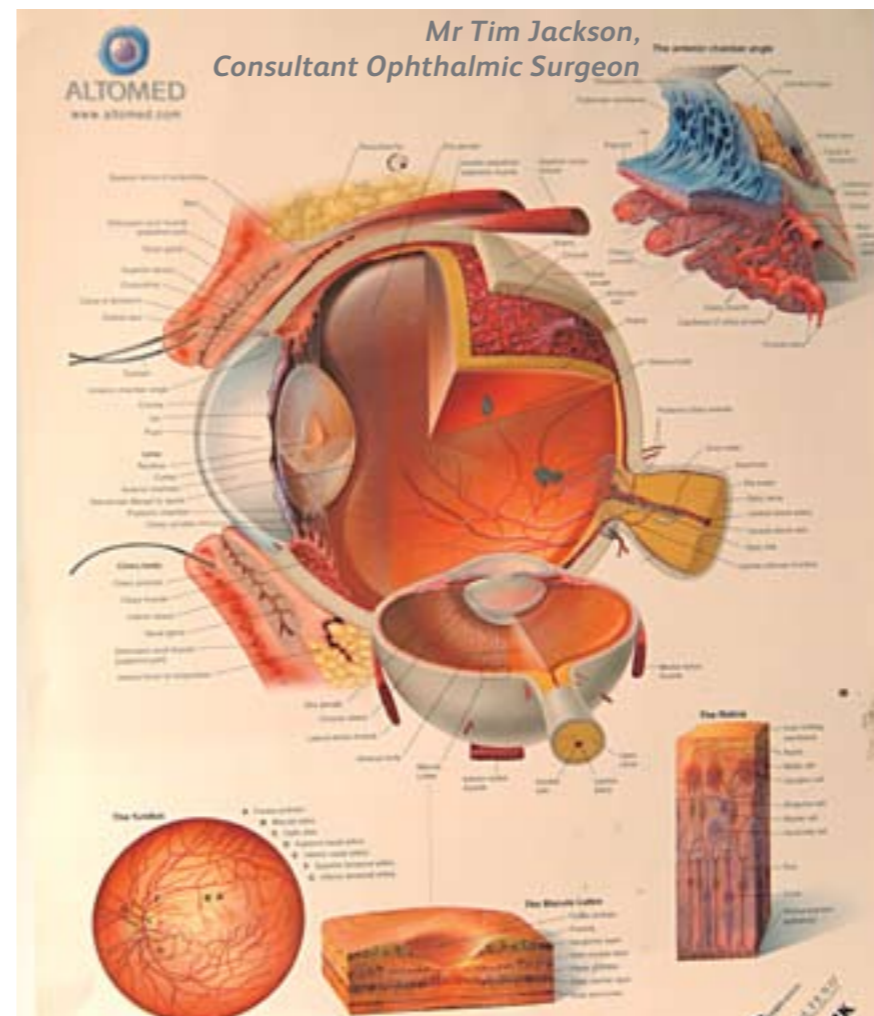
In this technique, a partial thickness flap is made in the cornea with a laser. This is then reflected back (like turning a page in a book). A second laser is then used to sculpt the underlying cornea to the right prescription and the flap is then reflected back to its original position. In this way, the eye is tricked into thinking that nothing has happened and the visual recovery is dramatic with patients seeing 20/20 within hours of their surgery.

Laser eye surgery is becoming increasingly popular with more than 30 million procedures already performed worldwide [5] and technology improving year on year.

Complications can occur and these include dry eyes (typically temporary), glare or halo effects at night especially with higher prescriptions and various flap related problems.

However, with an accurate pre-operative work-up and meticulous surgical technique combined with modern technology, the incidence of complications has become increasingly rare. The procedure is so safe that it has been approved for commercial pilots, the military for air force pilots and NASA for its astronauts

Mr Ali Mearza,
Consultant Ophthalmic Surgeon



Q Are eye conditions hereditary?

A A vast array of hereditary eye disorders have been identified. These include conditions limited to the eye as well as ocular manifestations of other hereditary disorders and complex syndromes. Congenital cataracts and retinal degenerations rank high among the many genetic causes of blindness. A very common genetic eye disorder is retinitis pigmentosa (RP). RP can be inherited due to a new abnormality in your genes. Whatever the cause, the disease affects the light receptive (photoreceptor) cells that exist in the retina. The retina lines the inside of the back of the eye and is likened to the film in the back of the camera.

Children can demonstrate the following signs if their vision has been reduced:

- Eyes moving to and fro
- Touching their eyes
- Roving eye movement

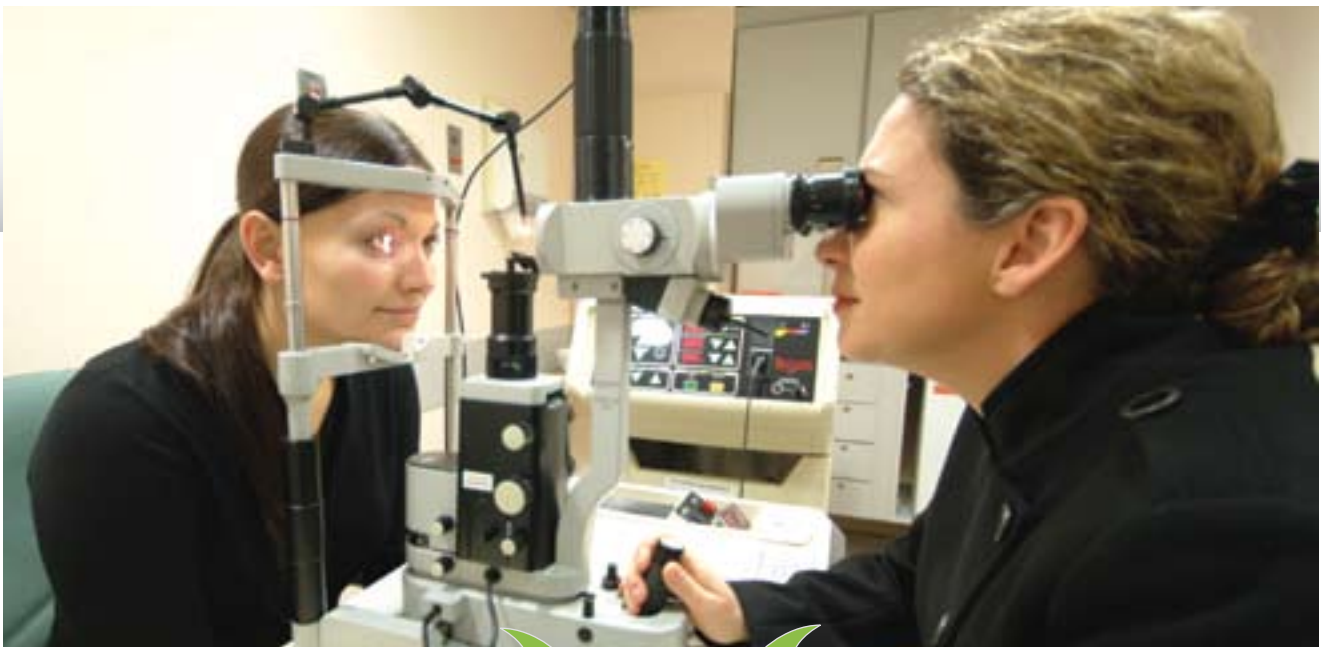
Some children may have other associated symptoms (poor hearing, learning difficulties and reduced growth), which do not relate to their vision and it may only be later that vision is affected. RP, which can also lead to cataracts, is best detected by an examination of the inside of the eye [6].

Adults with RP typically have a loss of peripheral vision and relative preservation of their central vision. As the disease progresses some adults also lose their central vision but the disease varies enormously from one person to the next – some have minimal visual changes throughout their life and others severe loss of vision early in life.

RP treatment focuses on slowing the progression of the disorder, and alongside the advances in surgery; there is a promising future for those with this degenerative disease.

Mr Tim Jackson,
Consultant Ophthalmic Surgeon





Q How often should I have my eyes tested?

A Regular annual eye examinations are recommended as they will often detect eye conditions before symptoms occur. The majority of people require a routine eye examination every two years. However, children may require eye examinations every 6 months. The following people are entitled to a free sight test on an annual basis:

- those under the age of 16 years
- those under 19 years old and in full time education
- those over 60 years
- diabetics and those with glaucoma (annual examination recommended)
- those over 40 with a family history of glaucoma

Your optometrist can recommend the frequency of eye examinations based on your individual circumstances.

Mr Sanjay Shah,
Consultant Ophthalmic Surgeon

Q What steps can I take to keep my eyes healthy?

A The following steps can be taken to protect your eyes and keep them healthy:

- Protect your eyes from the sun – invisible but harmful UVA and UVB rays contained in sunlight may be a factor in a number of eye diseases, in particular cataracts and skin cancers affecting the eye lids. It is important to protect your eyes, for example by wearing sunglasses which have been made to the agreed European standard
- Eat foods rich in antioxidant vitamins – evidence suggests that a diet rich in antioxidants may protect against AMD, therefore it is important to ensure your diet contains plenty of fruit and vegetables
- Stop smoking – smoking has been strongly linked to the development of AMD. Although the exact mechanism has not yet been found, evidence shows that a higher number of smokers have developed macular degeneration than non-smokers. Smoking has also been linked to cataracts in later life.

Mr Hugo Henderson,
Consultant Ophthalmic and Oculoplastic Surgeon

1. About Vision http://vision.about.com/od/maculardegeneration/qt/Wet_Dry_AMD.htm
 2. The Eye Care Trust http://www.eye-care.org.uk/view.php?item_id=83
 3. Royal National Institute of Blind People (RNIB) http://www.rnib.org.uk/eye-health/eyeconditions/conditionsac/Pages/cataract.aspx?gclid=CLKCOLHj7aQCFV_92AodYD3P0A

4. National Library of Medicines <http://www.nlm.nih.gov/medlineplus/ency/article/007330.htm>
 5. European Hospital <http://www.european-hospital.com/en/article/4987.html>
 6. Action for Blind People <http://www.actionforblindpeople.org.uk/help-advice/losing-your-eyesight/retinitis-pigmentosa,945,SA.html>

The London Clinic is located on Harley Street, in the heart of the capital's medical community, and is internationally renowned for its medical and surgical expertise. It has a dedicated eye centre led by a team of 35 experts who are all leaders in their field. The Clinic provides integrated and holistic care for all patients, from a simple eye test, right through to surgery.

The London Clinic Eye Centre is currently based at 147 Harley Street. It is relocating to new purpose-built facilities at 119 Harley Street in Summer 2011.

If you would like to put any alternative questions on eye health to our consultants to appear in print, please contact The London Clinic Press Office on **020 8786 3860** or at pressoffice@thelondonclinic.co.uk

For more information about The London Clinic please visit thelondonclinic.co.uk