



SIGHT FOR LIFE

YOUR GUIDE TO MAJOR EYE DISEASES

FIGHT FOR SIGHT

4 Parnell Street,
Waterford,
Ireland.

Telephone: +353 (0)51 878 088

Fax: +353 (0)51 878 606

E-Mail: iffsc@indigo.ie

Website: www.fightforsight.ie

H.E. President of the Republic of Ireland is the honoured patron of Fight For Sight

Produced By
FIGHT FOR SIGHT
An Irish Charity devoted to the prevention of Sight Loss

INTRODUCTION

Fight for Sight is an Irish charity devoted to the prevention of sight loss. Established in 1985, Fight for Sight aims to save sight by increasing public awareness of Eye Disease, by fundraising for research and by the purchase of eye equipment for our hospitals.

This booklet, Sight for Life sets out to offer concise descriptions, symptoms and treatments for some of our most common eye diseases. In so doing, we hope to increase awareness of some of the major eye ailments and to encourage a climate where early detection prevents sight loss. The Eye Diseases covered in the booklet are many and varied but without exception, the prospects for their management and cure are greatly enhanced by early detection and treatment.

Please read the booklet carefully and if you have reason to be concerned about the health of your eyes, we encourage you to make an immediate appointment for an eye examination.

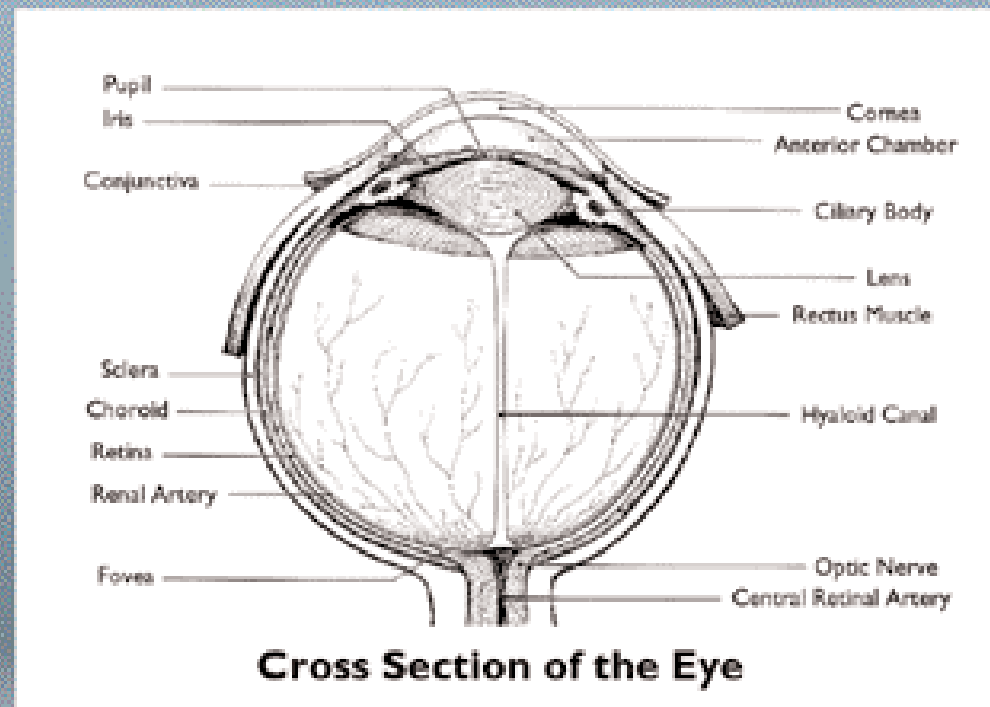
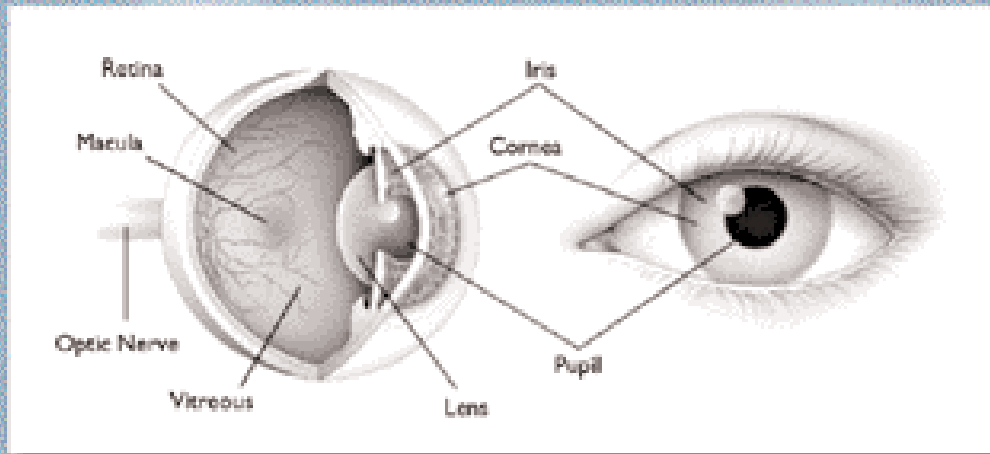
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DIAGRAM OF THE HUMAN EYE



LAZY EYE/AMBLYOPIA

DESCRIPTION:

At birth a child is born long-sighted – or hyperopic. As they grow and develop the eye also grows larger and longer. Unfortunately, in some children both eyes may not develop at the same rate and this may result in blurred vision. In some children, particularly in those with a family history of a lazy eye, a squint or turn in the eye, the brain ignores the sight from the eye with the worst focus and suppresses the image it receives from this eye, resulting in reduced vision in the eye. As the child continues its growth into its second and third years, the affected eye's vision becomes increasingly neglected by the brain resulting in further deterioration of vision due to reduced stimulus from eye to brain. The muscles controlling the movement of the eye also become affected resulting in a squint or turn in the eye.

SYMPTOMS:

Because a lazy eye occurs initially in infants a first diagnosis is generally only made when a flick turn is noticed in one or other of the eyes. Family members who have had a similar problem themselves as children will often notice the condition first. Where the abnormality in the eye is due to a cataract this may bring it to the attention of a parent by direct observation. In adults who have forgotten about their childhood condition, a lazy eye may be brought to their attention following an eye trauma involving the unaffected eye or during a regular eye test.

TREATMENT:

Where there is a strong family history of a lazy eye, a squint or turn, it is essential to observe new-born infants and their subsequent development. If the condition is noticed, immediate referral to an eye specialist who is qualified to treat the condition is prudent. The treatment consists initially, of the application of eye drops which dilate the pupils in order to facilitate an eye-test. The eye-test will then determine if the patient requires spectacles and will also reveal the presence of any underlying eye disease or abnormality. Spectacles may then be prescribed and a specialist may be engaged to supervise patching or occlusion of the unaffected eye in order to strengthen the sight in the lazy eye. This patching allows the brain to utilise and regenerate the image coming to the brain from the eye. In small children where a patch or spectacles may prove impractical, Atropine drops may be used to blur the sight in the good eye for a period of time. Surgery to straighten a turn is usually carried out when vision in the squinting eye has sufficiently recovered.

SQUINT / TURN

DESCRIPTION:

A squint or turn in the eye is where one eye deviates out of alignment with the other. This condition can occur at any age but is most common in children with a lazy eye, (see Lazy Eye/Amblyopia). In children, squint is generally a sign of a lazy eye and should be treated as such. However, in adults the sudden onset of squint usually indicates a neurological or medical condition which results in paralysis of one or more nerves to the muscles which control eye movement. It may also be caused by disease directly affecting these particular muscles.

SYMPTOMS:

As squints mostly occur in small children, and are usually associated with a lazy eye, the condition is likely to be first noticed by a parent or family member. In adults, the sudden onset of a turn in the eye may present itself as double-vision. Severe double-vision may make it dangerous for the sufferer to perform day-to-day tasks such as driving. In others, a turn may only be noticed by associates who may or may not bring it to the attention of the sufferer.

TREATMENT:

Treatment of a squint in childhood involves primary management of the lazy or amblyopic eye in order to bring the eye's vision to its greatest potential prior to surgery. Once this is achieved a surgical procedure is performed on the muscles which move the eye in order to correct the turn and restore normal alignment of both eyes. These surgeries are carried out under general anaesthetic and in certain adult cases can be 'adjusted' afterwards in the waking stage to achieve maximum cosmetic effect. Where neurological or medical causes exist, immediate referral to an appropriate hospital-based consultant, with facilities for further detailed investigation, is essential.

HERPES EYE INFECTIONS

DESCRIPTION:

There are two types of herpes virus which can affect the eye in different ways. The herpes zoster virus, commonly known as shingles, usually starts with a skin rash on one side of the head. This can spread into the eye causing an inflammation (iritis) or may cause increased pressure within the eye (glaucoma). The other herpes virus is herpes simplex which affects people globally and is characterised by the typical cold sore on the lips or in the mouth or by the whitlow on the fingers. Herpes simplex is highly contagious and can easily be transmitted by kissing and through mouth and hand contact. In the eye, it causes an infection of the conjunctiva (conjunctivitis) and in the cornea (keratitis) and usually results in a chronic corneal ulcer. As the virus can remain dormant in the cornea indefinitely, a reduction in immunity through stress can re-activate the virus with the recurrence of an ulcer. Multiple recurrences may eventually result in a scar of the cornea with a serious reduction of vision.

SYMPTOMS:

Shingles affecting the eye usually starts with a dull aching pain in the side of the head followed by an erupting rash on the forehead, extending down to the eye. The onset of iritis and glaucoma are associated with redness and severe pain and blurred vision in the affected eye. Herpes simplex infection usually starts with increased sensitivity to light (photophobia), a watery eye discharge (conjunctivitis) and soreness and redness of the eye due to a corneal ulcer.

TREATMENT:

Shingles of the eye involves an initial course of antiviral tablets combined with antibiotics for secondary infection of the skin and eyes. Steroid drops are used for the iritis and anti glaucoma drops can be used in the event of the pressure rising. Herpes simplex infections and ulcers of the cornea demand immediate treatment with anti viral drops or ointments to the eye (Zovirax). These may sometimes be supplemented by the prescription of anti viral tablets. In eyes where the vision has become affected by scarring due to recurrent attacks by the virus, a corneal transplant may be required to restore health to the eye and improve sight. However with reference to both these viruses, prevention is still the best form of cure.

PROGRESSIVE SHORT SIGHTEDNESS – MYOPIA

DESCRIPTION:

Myopia or short sight usually comes on in the early teenage years as the body starts to grow and involves an increase in the growth of the length of the eyeball. This progressive growth of the eyeball continues until all physical growth stops and is usually completed in the early twenties. For this reason, laser surgery to correct myopia is not advisable until this progressive stage is completed.

SYMPTOMS:

The term “short sight” means that objects can be seen clearly at short distances and distant objects become blurred. As this condition usually starts in the early teens, difficulty seeing the blackboard in school from the back of the class or squinting of the eyes to see the TV more clearly are some of the common signs of early myopia which becomes worse as it progresses into early adult life.

TREATMENT:

It is strongly recommended that parents and teachers of adolescent children watch out for the symptoms and signs outlined above. If observed, children with suspected myopia should be immediately referred to an optometrist or ophthalmologist, where following a sight test, appropriate glasses can be prescribed. Failure to do this can lead to persistent headaches and serious eye strain with resultant difficulties in educational achievement. In the progressive form of myopia where new glasses of greater strength must frequently be prescribed, gas permeable contact lenses are recommended and these can slow down the progression if worn daily. Recently, more sophisticated contact lenses made from newer plastic materials have been developed. Specially fitted to the eyes, these lenses can be worn while asleep and can reverse the myopia allowing normal unassisted vision during waking hours. Known as Orthokeratology, this has been done in the US for a number of years and is more recently available in Ireland.

FLOATERS/FLASHES

DESCRIPTION:

In the normal eye, positioned behind the natural lens and in front of the retina lies a transparent gelatinous substance called the vitreous gel. This jelly-like substance fills the entire back part of the eye and supports the retina. The retina is a very thin layer of neural tissue, which operates like the film in a camera and is essential for sight. Whereas the vitreous gel normally adheres to the retina, it may, for no apparent reason, shrink in size, detaching itself from the retina or sometimes pulling the retina from its attachment to the back of the eye.

SYMPTOMS:

Floaters consist of dots, circles, lines, clouds and cobwebs resembling spiders suddenly noticed in front of the sight and seen especially in bright light or against a bright white background. The floaters consist of the gel which is detached from the retina or can form from degeneration in the gel itself.

Flashes of light, most often seen in the dark and out of the corner of the affected eye are usually significant of an associated tear in the underlying retina. If not attended to, this may lead to a full scale retinal detachment and complete loss of sight.

TREATMENT:

Immediate referral to an ophthalmologist who is specially qualified to examine this part of the eye is essential for floaters or flashes. Whereas floaters tend to dissipate with no serious complications, a retinal tear associated with floaters requires immediate laser surgical treatment. The presence of an early retinal detachment may require more advanced surgery.

MIGRAINE

DESCRIPTION:

Migraine affects 12-15% of the population and accounts for a large percentage of lost working days. Typically it is associated with the onset of severe headache across the top of the head associated with nausea and vomiting and sometime dizziness and a feeling of revolving surroundings (vertigo). Whereas this is the most common form of migraine, there is another form which can affect the sight and is not usually associated with headache or sickness.

SYMPTOMS:

Eye migraine usually starts with a visual aura or warning which can be described as a flickering of the vision at the edge of one's sight – peripheral vision – in one or both eyes which gradually extends over the complete sight sometimes leading to complete loss of vision which can be extremely disturbing. These auras can vary in description from person to person but usually take the appearance of a flickering sensation, with or without coloured light, like a rainbow effect, and are called "fortification spectra" and are typical of eye migraine. In general they usually last for five to ten minutes after which a general feeling of fatigue sets in but in general without headache.

TREATMENT:

Persons experiencing these attacks should attend their general practitioner. For further information www.migraine.ie

DIABETIC RETINOPATHY

DESCRIPTION:

Diabetic retinopathy occurs when chronically high glucose levels in poorly controlled diabetes damages the tiny blood vessels in the retina. At the outset, most people do not notice any changes in their vision. Some people go on to develop a condition called Macular Edema. This occurs when the damaged blood vessels leak fluid onto the macula, the part of the retina that enables us see detail. The fluid makes the macula swell, leading to blurred vision. As the disease progresses, fragile new blood vessels grow along the retina and in the clear, gel-like, vitreous that fills the inside of the eye. Without timely treatment, these new blood vessels can bleed, cloud vision and, ultimately, destroy the retina.

SYMPTOMS:

Diabetic retinopathy often has no early warning signs but as the disease progresses to the condition of Macular Edema, vision will begin to blur, making it difficult to do things like reading and driving. In some cases, vision may get better or worse during the day. As new blood vessels form at the back of the eye, they can bleed and blur vision. This may not be very severe at first, in most cases leaving just a few specks of blood or spots floating in your vision. These sometimes disappear after a few hours but are often followed within a few days or weeks by a much greater blood leakage leading, in turn, to increasingly blurred vision. In extreme cases, a person will only be able to tell light from dark in the affected eye. You should be aware that large haemorrhages tend to happen more than once and often occur during sleep.

TREATMENT:

There are two treatments for diabetic retinopathy. Both treatments are very effective in reducing vision loss from this disease. In fact, even people with advanced retinopathy have a 90% chance of keeping their vision when they get treatment in advance of severe damage to the retina. The treatment most commonly used for vision threatening retinopathy is Photocoagulation. This is the use of an intense beam of laser light to seal the leaking blood vessels and the fragile or torn retinal tissue. The laser beam is also used to prevent the growth of abnormal new blood vessels. Another recent treatment for advanced diabetic retinopathy is called Vitrectomy. In this technique, a delicate instrument is used to break up the blood deposits and scar tissue strands within the vitreous and remove them by suction. At the same time, through another channel, a clear salt solution is injected to replace the vitreous.

GLAUCOMA

DESCRIPTION:

Glaucoma is a disease that damages the optic nerve, the part of our eye that carries the images we see to our brain. In the healthy eye, a clear liquid circulates in the front portion of the eye. To maintain a constant healthy eye pressure, the eye continually produces a small amount of this fluid and an equal amount which flows out of the eye. If you have glaucoma, the fluid does not flow properly through the drainage system. Fluid pressure in the eye increases and this extra force presses on the optic nerve in the back of the eye, causing damage to the nerve fibres. Glaucoma is an extremely serious eye disorder which can cause blindness if not treated early.

SYMPTOMS:

In the early stages of chronic glaucoma, there are frequently no obvious symptoms and whilst increased pressure in the eye may be an indicator, this will not necessarily mean you have the disease. With fewer early warning signs than other major eye diseases, the most efficient detection method for glaucoma is by regular eye examination. Those most prone to developing glaucoma are people over 60 and people with a family history of the disease.

TREATMENT:

While there is no cure for glaucoma and optic nerve damage cannot be reversed, the disease can be treated successfully and vision loss prevented by early detection. Treatment involves controlling the pressure in the eye as it is pressure which damages the optic nerve causing loss of sight. Acute glaucoma is treated by drugs to relieve pressure and may be followed by laser treatment or surgery to allow the fluid to drain. Occasionally, the blockage in the eye becomes permanent and needs the same treatment as chronic glaucoma. Chronic glaucoma is controlled by eye drops, or occasionally by tablets. Where vision continues to deteriorate, laser treatment or surgery to provide a drainage valve will be required. These procedures have a high success rate.



Normal Vision



Glaucoma affected Vision

CATARACTS

DESCRIPTION:

A cataract is a common eye condition which occurs when the lens of the eye or its enclosing membrane becomes clouded. The lens of the eye consists, for the most part, of water and protein. The protein is arranged to let light pass through and focus on the retina. As this protein becomes denatured due to ageing or through diseases such as Diabetes, it turns white and obstructs the passage of light. This can start to cloud small areas of the lens, blocking some light from reaching the retina and interfering with vision. Cataracts is a condition which affects millions of people. Although researchers are learning more about cataracts, no one knows for sure what causes them, with many scientists believing smoking, diabetes, and excessive exposure to sunlight to be contributory factors.

SYMPTOMS:

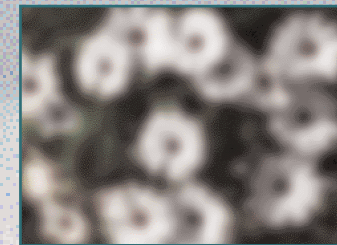
Cloudy or blurred vision. Problems with light. These can include headlights that seem too bright in oncoming traffic, glare from lamps, very bright sunlight or the impression of a halo around lights. Colours that seem faded. Poor night vision. Double or multiple vision. (This symptom often disappears as the cataract grows) Frequent changes in the strength of eyeglasses or contact lenses.

TREATMENT:

For an early cataract, vision may improve by using different eyeglasses, magnifying lenses, or stronger lighting. If these measures don't help, surgery is the only effective treatment. In the most common surgical treatment of cataracts, a small incision is made in the eye. The front portion of the thin outer lens covering is opened to allow the removal of the cataract. The cataract is gently broken up and vacuumed out. A lens implant is then inserted through the small incision and into the capsule where it permanently takes the place of the clouded natural lens. With the cataract removed the new lens implant clearly focuses light rays onto the retina. The strength of the lens implant is selected to suit your eye.



Normal Vision



Cataract affected Vision

AGE-RELATED MACULAR DEGENERATION (AMD)

DESCRIPTION:

Macular Degeneration (AMD) is a condition, usually of older people, which results in a loss of vision in the centre of the visual field (the macula) arising from damage to the retina. Central vision is needed for seeing objects clearly and for common daily tasks such as driving or reading. In some people, AMD advances so slowly that it will have little effect on their vision as they age. In others, the disease progresses faster and may lead to a loss of vision in one or both eyes. AMD occurs in what are commonly known as 'dry' and 'wet' forms. In the 'dry' form, cellular debris accumulates between the retina and the choroids and the retina can become detached. In the 'wet' form which is more severe, blood vessels grow up from the choroid behind the retina and again, the retina can become detached.

SYMPTOMS:

As its name suggests, Age-related macular degeneration usually occurs amongst older people and like many of the eyed diseases referred to in this booklet, the most common early indicator of AMD is blurred vision. As fewer cells in the macula are able to function, people will see details immediately in front of them less clearly. Often this blurred vision will go away in brighter light. If the loss of these light sensing cells increases, people may see a small but growing blind spot in the middle of their field of vision. Vision loss is typically gradual in the 'dry' form of the disease and occurs faster in the 'wet' form. Other symptoms may include a difficulty in discerning colours (specifically, dark ones from dark ones and light ones from light ones) and slow recovery of visual function following exposure to bright light.

TREATMENT:

No treatment yet exists for the 'dry' form of AMD. It has been suggested that taking certain extra vitamins and minerals may slow the progress of the disease but this treatment needs much more research before scientists can know for sure if it's helpful. Although the 'wet' form of the disease is more severe, it can, if detected early enough, be treated with laser coagulation and with medication that stops and sometimes reverses the growth of blood vessels. Adaptive devices can help those with AMD to continue reading and to see objects immediately in front of them. These include magnifying glasses, special eyeglass lenses, desktop and portable electronic devices and computer screen readers.

CONTACT LENSES

DESCRIPTION

There are two types of contact lenses available from optometrists and ophthalmologists – soft and hard. Soft contact lenses are made from flexible plastic material and are extremely comfortable to wear. Hard contact lenses are made from rigid plastic material and are less comfortable to wear. Developments in the contact lens industry in recent years have done much to increase comfort and safety for wearers.

SYMPTOMS:

Assuming your lenses are correctly fitted, the most common difficulties associated with their use occur as a result of poor hand/lens hygiene. This can cause infections resulting in an ulceration of the cornea and in extreme cases loss of sight. The lodgement of dust or other foreign material under a lens can cause scratching of the cornea and be extremely painful.

TREATMENT:

In the event that the eye gets sore or red, the contact lens should be immediately removed and examination of the eye by an optometrist or ophthalmologist be carried out and the appropriate treatment prescribed. Should the problem be due to an ill fitting contact lens, a complete refitting should be carried out and a new contact lens prescribed.

DRY EYE.

DESCRIPTION:

Because the front surface of the eye or cornea requires a constant film of fluid to keep it washed every time the eyelids blink open and closed during the day, tears which are secreted by the lacrimal or tear gland are required constantly. However the tear film also contains a lubricant in the form of a lipid which is secreted by the small meibomian glands which are embedded in the eyelids and some mucous which is secreted by the goblet cells in the conjunctiva of the eyelids. Any disease process involving either of these three entities will disturb the tear film resulting in intermittent blurred vision and irritable sore red eyes with a sensation of scalding or burning and itching.

SYMPTOMS:

Dry eyes are particularly common in general medical diseases affecting the lacrimal gland directly such as rheumatoid arthritis and allied disorders. However diseases affecting the eyelids with damage to the meibomian glands in the eyelids or involvement of the goblet cells of the conjunctiva such as blepharitis or injury can also result in dry eye problems.

TREATMENT:

Treatment involves the use of replacement therapy such as artificial tears and lubricating drops and ointments. Flax seed oil taken by mouth can also help and treatment of any associated general medical conditions is also advisable. In severe cases, a minor operation to plug tear drainage channels in the lids (canaliculi), in order to conserve the small volume of available tears is also helpful and can be done by an ophthalmologist.

BLEPHARITIS.

DESCRIPTION:

This is a condition affecting the eyelids in which the small fat lipid (grease) secreting meibomian glands become chronically infected and inflamed, the inflammation usually extending itself to the eyelash follicles or roots which line the eyelids edges adjacent to these glands. Blepharitis is an extremely common condition and can have a hereditary background. The most common presentation is that of chronic sore red eyelids with symptoms of stinging and burning with a tendency to constant eye rubbing and the need to continually use drops, many of which involve home medications such as cold tea, boric acid and various over the counter soothing prescriptions dispensed in pharmacies without the need for a prescription. Blepharitis can be associated with skin and general medical conditions such as acne rosacea which is characterised by high colour in the skin over the cheek bone area and swelling of the nose.

SYMPTOMS:

Complications of long term uncontrolled blepharitis consists of recurrent eyelid cysts which may require surgical removal and infected corneal ulcers which if not treated adequately can lead to perforation of the cornea and possible loss of the eye in rare cases.

TREATMENT:

Treatment consists of specific anti-blepharitis drugs which combine to give an anti allergic/decongestant effect and in cases where associated infection is present, antibiotics locally to the eyes and sometimes systemically may be required. Treatment in severe cases must be continued for life and must be adequate. Monitoring of the condition should be continued by an ophthalmologist.

WHAT IS AN OPTICIAN?

An optician is a person qualified to dispense glasses but is not allowed to test eyes or prescribe glasses. The term dispensing optician is usually applied to these personnel. Their training involves specialising in lens design and spectacle frame fitting.

WHAT IS AN OPTOMETRIST?

An optometrist is the name given to a person who is qualified to dispense glasses (as above) and also to examine the eyes for spectacles. They are also qualified to examine for and recognise various eye diseases but are not permitted to treat these diseases. They may also fit and supply contact lenses.

WHAT IS AN ORTHOPTIST?

An orthoptist is specially trained in the evaluation of non-surgical treatment of visual disorders caused by an imbalance of the eye muscles – such as squint, amblyopia and other visual defects.

WHAT IS AN OPHTHALMOLOGIST?

An ophthalmologist is a medically trained doctor who becomes specialised in the medical aspects of eye disease. The basic medical training involves physics, optics and pharmacology in association with general medical diseases which can affect the eyes e.g. diabetes, neurological disease etc. There are two types of ophthalmologist: medical ophthalmologists and surgical ophthalmologists. Both groups can test eyes, prescribe glasses, diagnose and treat eye disorders by writing prescriptions for eye glasses. Surgical ophthalmologists are the doctors who are qualified to perform all operations such as cataract removal or the treatment of eye injuries.