

**MEDIA
PLANET**

15 JUNE 2007

VISION

YOUR GUIDE TO GOOD EYE CARE



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Welcome to Vision



Foreword by Rod Lane, President European Sunglasses Association and Managing Director, Fabris Lane

WHEN IT comes to the amazing and finely tuned machines that are our bodies, we human beings tend to take a lot for granted, frequently to the point of testing them to destruction. But of all the components vital to life, perhaps none is so widely ignored by so many people as the eye.

raised in these pages. The great leaps forward in corrective eye surgery, for example, mean that the vast majority of people with refractive errors now have a range of options for dealing with conditions that in days gone by would have meant a lifetime of incapacity.

Technological advances have made laser surgery an increasingly popular and economic choice, while the development of techniques such as refractive lens exchange or the insertion of intraocular lenses that sit between the cornea and the iris have gifted excellent vision to many thousands.

Even more exciting are some of the breakthroughs in medical research that, in the not too distant future, could restore sight to those whose impairments were, until now, considered to be irreversible. Moorfields Eye Hospital and UCL's Institute of Ophthalmology, for example, are collaborating on developing an exciting stem-cell therapy to reverse the terrible effects of the single biggest cause of blindness in the UK – age-related macular degeneration – while scientists around the world are close to making the bionic eye of science fiction a working reality.

I'm also impressed by the efforts of organisations such as the Eyecare Trust to inspire people to protect their sight by the simple but effective means of adopting healthier lifestyles. In this age of increased general health awareness it is vitally important that we raise the profile of eye health as much as possible.

I have learnt that it is the negative effects of lifestyle in early years that can lead to poor eye health in later life. This is an area of particular interest to me because nothing better illustrates this point than the long-term dangers of over-exposure to harmful UV rays.

How many parents, for example, are aware that children's eyes are much more susceptible to sun damage than those of adults? As a result, by the time a person is 18, they will have absorbed more than half a lifetime's worth of UV rays. If parents ensured their children wore good-quality sunglasses they could save them in later life from the ravages of such consequences as age-related macular degeneration.

It is our mission at the European Sunglasses Association to raise the profile of these issues and to increase consumer awareness of the dangers of sunlight to the eye. Everyone knows the impact of the sun's harmful rays on the skin. It's about time people understood that these same dangers can affect your sight and we are committed to getting across this key health message.

I hope you enjoy this supplement – and that, for the sake of your eyes, you take to heart some of the advice within it.

In an era when few people are unaware of the perils for the skin of too much exposure to sunlight, for instance, the lack of consumer awareness about the dangers of UV to the delicate human eye continues to amaze me, not least because the effects can be so devastating and yet prevention is so easy.

This is why this Vision supplement is so valuable to our industry and, indeed, to the wider eyecare sector. Opportunities to reach out to so many consumers to raise such important issues about eye health are few and far between and must be seized when they arise.

One of the purposes of this supplement is to give people the information they need, not only to tackle some of the unavoidable problems their genes may have given them, but also to head off some of the avoidable and frequently devastating consequences of lifestyle – in short, to help readers to look out for their eyes.

As President of the European Sunglasses Association, I have a particular area of concern and responsibility. It is our mission to increase consumer awareness of the dangers of sunlight to the eye and to communicate the importance of wearing good quality sunglasses.

However, I feel just as passionate about many of the other issues

Top ten tips for healthy eyes

1. Eat well – a balanced diet rich in "eye friendly" nutrients found in fish and many fruits and vegetables. Eating fish once a week can reduce the risk of developing age-related macular degeneration – the biggest cause of sight loss in the UK – by as much as 40 per cent.

2. Exercise regularly – which means at least 30 minutes five times a week. Aerobic exercise increases crucial oxygen supplies to the optic nerve, preventing the progression of diabetes and controlling conditions such as glaucoma and ocular hypertension.

3. Sleep well – lack of sleep and fatigue can lead to your eyes becoming sore, irritated, puffy, red and bloodshot.

4. Stop smoking – smoking is associated with AMD and other diseases, including glaucoma. Smokers are twice as likely to lose their sight.

5. Protect your eyes – the British Safety Council says a quarter of a million people injure their eyes each year. DIY is a major hazard, but sport is the biggest cause for hospital admission for eye problems, with squash the worst offender.

6. Drink less alcohol – it interferes with liver functions, reducing the levels of glutathione, an antioxidant that helps to protect against common eye disease.

7. Drink more water – humans are 70 per cent water and dehydration leads to dry, sore and irritated eyes.

8. Avoid the sun – effects of excessive exposure can range from photokeratitis, a painful inflammation of the cornea, to the long-term risk of cataracts and other age-related conditions.

9. Watch your weight – a healthy BMI helps to preserve macular pigment density, which protects the retina against the onset of AMD. Excess weight also causes damage to blood vessels in the eye, linked to glaucoma and diabetes.

10. Get them checked – The Eyecare Trust recommends an examination at least once every two years unless advised otherwise. An eye examination will not only detect problems with your vision but it can also uncover a number of other underlying health problems.

Source: The Eyecare Trust

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Free your eyes from glasses and contact lenses with ReZoom intraocular lenses see page 7

ReZoom
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Rodenstock ColorMatic® lenses

The fast fade-back from leaders in vision, Rodenstock, is for people who look for performance to match the fine cosmetics of their lenses – thinner, flatter, lighter lenses that bring a youthful vision to your eyes.

Cosmetically appealing, the residual tint of ColorMatic® is barely detectable when fully faded. This makes the lens option suitable for every situation – indoor and outdoor. The broad choice of ColorMatic® options offers a lens for virtually every person's needs. Available in brown and grey tints, the Rodenstock fine, high-index, 1.67 option is available on a broad selection of premium single vision and multifocal progressive lenses.

Warm brown provides calm vision with enhanced contrast; cool grey provides natural colour reproduction while the ColorMatic Contrast® orange option is ideally suited for outdoor activities and sports, enhancing contrast and so giving better vision in every situation.

Thanks to the photochromic manufacturing process, ColorMatic® lenses enjoy an enviously high aging resistance. Ease of processing, and the excellent performance during glazing, drilling and grooving for each individual prescription, ensure that ColorMatic® mid and high index lenses are ideally suited for rimless and semi-mounted frames. The high index material means that lenses are up to 60% lighter and 75% thinner than glass and up to

15% lighter and 25% thinner than standard plastic 1.5 index lenses.

Coleman Opticians of Norwich is one of the largest users of ColorMatic® lenses, dispensing thousands of pairs this season: "Many people are delighted not to have to keep swapping between two pairs of glasses. We like to give our patients the best products that we can and this brings many others into the practice," said Katie Heath, FBDO BSc Hons.

IMPRESSION FREESIGN® LENSES

World class spectacle lens producers, Rodenstock, holders of the internationally-coveted highest lens accolade – the Silmo d'Or Award – bring the most bespoke, individual lifestyle, corrected vision available.

Impression FreeSign® progressive lenses, the latest development in Rodenstock's patented freeform technology, bring unrivalled wearer satisfaction, thanks to the high level of individualised lens design that is passed to your optician.

Just as no single pair of shoes suit everyone of the same size, the same is true of spectacle lenses. An architect, who focuses at close range for most of the day, will place quite different demands upon his eyes than the taxi driver, who occasionally looks down to write a receipt, or the musician who needs good intermediate and close vision.

"By taking into account a person's visual habits and demands for leisure and work, the Impression FreeSign® can be designed to create the very best tailor-made progressives for both vision and aesthetics," say Rodenstock.

VISION IN SPORT

Optimum performance in sport requires the sharpest, eagle-eyed vision and Rodenstock has a large design team working at its Munich headquarters to bring a continual flow of the very best vision options for those who like to compete.

Whether it is on the running track, the golf course, cycling, sailing or flying, Rodenstock can bring the best visual performance and the widest field of vision, while also protecting your eyes from flying debris and headwinds.

ProAct® 4, Rodenstock's high quality new collection of specialist prescription

sports eyewear is for men and women who demand the best.

Dynamically-curved, stylised frame designs in a choice of cool colours, are supplied with a choice of different coloured interchangeable lens filters. They are designed to harmonise with the colour of the frame and to provide varying degrees of filtering for different sports and light conditions.

"ProAct® 4 is designed for optimum sports vision, whether it is mountain biking in the morning or hiking in the low winter sun. It lets you use the interchangeable filters to see well under different light conditions," say Rodenstock.

Glazed to prescription, with Rodenstock

Sport Extra Curved Lenses, including the option of progressives for close and far distance, these lenses sit below the filter system, providing great flexibility in wear.

"If you stop off for a drink while cycling, or pause for lunch on the ski slopes, you don't have to think about spare glasses – the prescription lenses and sunglasses are both available as one versatile option," add Rodenstock.

ProAct® 4 frames, which feature UV 400 protection lenses, safety hinges and adaptable nose pads for optimum comfort, come in colour options of black orange, brown black, red rose, white, black grey, red black, blue, black orange and olive green.



ProAct® 4 sports eyewear by Rodenstock

For information ask your local optician or call: 01474 325555
info@rodenstock.co.uk

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A vision of freedom for the housebound

An initiative by the eyecare industry is reaching out to restore sight to elderly and disabled people trapped in darkness in their own homes

Almost a million and a half people who are unable to leave their homes unaccompanied are entitled to a free NHS sight test and eye examination in their own home, but less than a third are taking advantage of this vital service.

As mobility decreases and their eyes deteriorate, many older people fail to go for check-ups, and the consequences can be both distressing and dangerous.

The Domiciliary Eyecare Committee was set up by the Federation of Ophthalmic and Dispensing Opticians (FODO), the Association of Optometrists (AOP) and the Association of British Dispensing Opticians (ABDO) to push for greater awareness of the service and to ensure the highest standards of delivery to one of the most vulnerable sections of society. The committee also has representation from the College of Optometrists.

"The biggest cause of older people not functioning properly is that they are not wearing the right glasses," says Jayne Rawlinson, chair of the committee.

"There are an awful lot of older

people wearing the wrong glasses. Many assume that failing sight is just part of the normal ageing process and therefore they don't have their eyes tested. They think, 'I don't want to make a fuss, I don't want to ask my family or neighbour if they could take me to the optician.'"

It's an attitude that can have a devastating and unnecessary effect on quality of life. As a result, "they can't see the television, can't read a paper, can't even see the food on their plate. If they are living in a care home it means that they are not able to join in the group activities and they become very isolated. In their own homes, they will be completely isolated."

Research by the Royal National Institute for the Blind found widespread under-provision of domiciliary examinations for people who live at home and are unable to leave unaided. Many belong to low socio-economic groups and so are already disadvantaged in other respects.

Nationwide, an estimated four million older people do not take advantage of the free regular eye examinations that

are available to anyone over 60. One consequence is that 270,000 people over 75 experience needless sight loss because they are either wearing glasses with an outdated prescription, or no glasses at all.

Regular examinations are also important because they are the only way to detect conditions that can further damage the eyesight, including glaucoma, diabetic retinopathy and age-related macular degeneration.

Surprisingly, many older people soldier on with untreated cataracts, estimated to be responsible for 26 per cent of cases of sight loss in people over 75, even though they can be treated successfully in 90 per cent of cases.

In a report published in January 2007, "Fundamental Right to Sight", the Domiciliary Eyecare Committee also highlighted the link between poor sight and injuries. Almost 90,000 falls requiring hospital treatment happen each year because of poor sight, costing the NHS £270 million, while hip fractures lead to the loss of 14,000 lives a year. Studies have shown that falls among the elderly can be

reduced by 14 per cent by reducing visual impairment.

There are other advantages to domiciliary visits. Often a better response to a sight test is obtained from older people and those with learning difficulties when it is conducted in a familiar environment. Advice can also be given about appropriate home lighting and how to reduce risk factors about the house.

Domiciliary services are available from specialist providers, high street opticians and many independent practitioners. Primary Care Trusts can supply a list of registered practitioners and FODO maintains a list of federation members who provide domiciliary services.

For more information, see www.fodo.com.



How you can give the gift of second sight

Do you have a forgotten pair of old glasses languishing at the back of some drawer? Dig them out and help to liberate a life in the developing world



PHOTO: PAUL CONSTANT



PHOTO: VICKY GRADWELL



PHOTO: BRIAN DONNAN



PHOTO: JACKIE GARROD

Imagine a country the size of France and with a population of 70 million – but without a single optician. This is the situation in Ethiopia, and just one of the challenges confronted by the charity Vision Aid Overseas.

Ethiopia and other countries in Africa are the focus of the charity's recycled spectacles programme, which sees thousands of pairs of old glasses changing the lives of people

who have not been able to earn a living for years.

"The marvelous thing is that our dedicated volunteers can transform someone's life from being blind to sighted for the price of a glass of wine," said Tym Marsh, director of VAO.

Celebrating seven years with the charity, Tym has built on the success of his predecessors and seen it grow

from eight projects a year, run by 50 volunteers, to 24, involving 160 volunteers.

A simple pair of glasses could alter beyond recognition the lives of an estimated 200 million people in the developing world and all the pairs dispensed by VAO volunteers are recycled secondhand glasses donated by members of the public in the UK. The glasses can be dropped off with

participating opticians around the country, including every branch of Vision Express, from where they are collected and transported to VAO by specialist optical delivery provider DX Network Services.

Sorted

In a unique operation, glasses are first rough-sorted at VAO HQ in Crawley and then delivered to prisons throughout the UK, where prisoners have been trained to clean, grade and pack them ready for shipping to VAO teams overseas. There, glasses are dispensed only after a full eye examination.

In the past seven years the number of spectacles recycled in this way has risen from about 10,000 a year to 35,000. In addition, training and workshop activities are expanding to enable the target countries to become more self-sufficient.

Referral

"Besides this, we try to link up each project with a medical/surgical referral system so that patients requiring treatment for medical conditions or surgery for cataracts can receive it," says Marsh.

Sadly, medical infrastructure in some countries is so poor that it is not always possible.

"At the moment, the charity is making real progress and expanding steadily. We are building on the firm foundations laid during the first few years of the charity's existence, and we are determined that we shall help more patients every year. But we shall need to raise the funds to cover the

increased activity," he added. To achieve this growth VAO is appealing for support from everyone in the world of optics.

"This year we received amazing cheques for £40,000 and £10,000 out of the blue from people we had not heard of before. We also received £10,000 from Celtic Football Club."

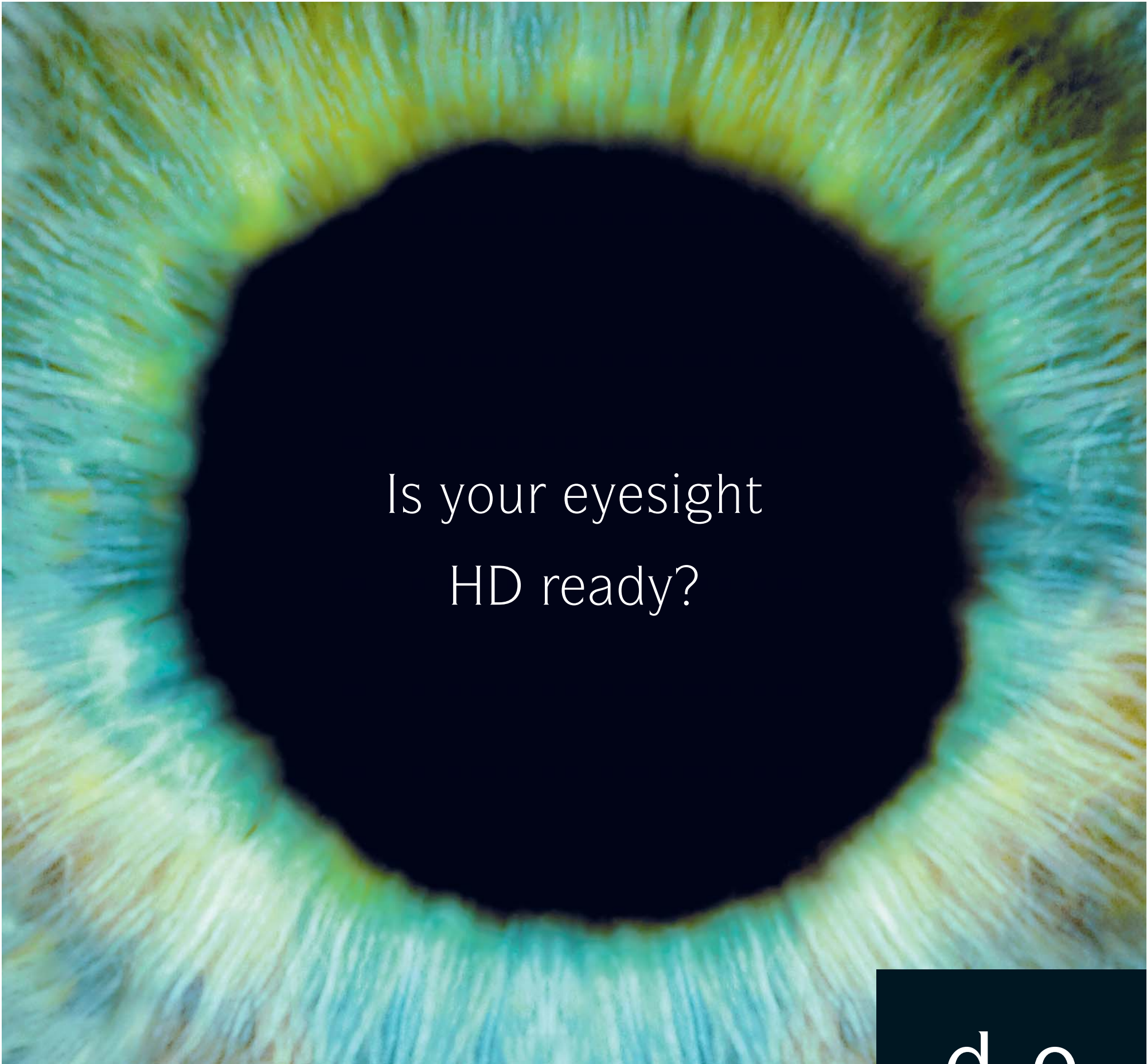
The combination of increased funds and an increase in the number of professionally qualified volunteers means that 2007 is almost certain to be the best year ever for VAO.

Poor

"The countries in which we work are incredibly poor and the loss of sight leads to great hardship," says Marsh. "It is difficult to comprehend until you have been there. To take the Ethiopia example again, it has virtually no healthcare, few raw materials, no oil, no outlet to the sea and limited agricultural products."

One of the most extreme prescriptions ever encountered by VAO was -36.00D. "The volunteers were able to provide a pair of -24.00D specs – not ideal but a vast improvement for the patient. Every team returns with dramatic stories such as grandmothers, who are blind, led in by their grandsons, and a few minutes later they see them for the first time.

"Tailors, potters, craftsmen, teachers and mothers have all been unable to work because of the lack of specs, but after twenty minutes VAO is able to change all of that. The delight on the faces of these people is something that our volunteers never forget," adds Marsh.



Is your eyesight HD ready?

You may well be one of the thousands of people ready to spend serious money on HD TV. Why not? The picture quality is fantastic. But will you ever really see the benefit? Many people won't, simply because their eyesight is not good enough. And that is a great shame when most eye conditions can be easily remedied with a prescription for spectacles.

Do you need a sight test?

doineedaneyetest.com is a new, easy to use website which will help you decide whether you need a sight test. It is supported by Varilux Specialist Opticians and The Eye Health Alliance. It can also direct you to a Varilux Specialist Optician with the skills and equipment, the time and the patience, to give you a thorough eye

examination. Even if you don't need glasses, it is always worth remembering that a sight test can be a very good indicator of general health.

Win an HD Ready TV

If you take a sight test you will be entered into a Free Prize Draw to win one of 4 HD Ready TVs. Even if you don't win, at least you will discover if your eyesight is HD Ready!

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So it was true what they said about carrots

The Eyecare Trust recommends the following ingredients for healthy eyes:

- Fruits and vegetables contain vitamins A, C, and E and Beta-carotene. The yellow vegetables, such as squash and – yes – carrots, are important for daytime vision, while blueberries and grapes contain anthocyanins, which improve night vision.
- Cold water fish, such as sardines, cod, mackerel and tuna, are a good source of DHA, which provides structural support to cell membranes, and is recommended for dry eyes and treatment for macular degeneration.
- Spinach, kale and green leafy vegetables are rich in carotenoids, especially lutein, a yellow pigment that protects the macula from sun damage and blue light.
- Eggs are rich in cysteine, sulfur, lecithin, amino acids and lutein and sulfur-containing compounds protect the lens from cataracts.
- Garlic, onions, shallots and capers are also rich in sulfur, which is necessary for the production of glutathione, an important antioxidant for the lens of the eye.
- Soy, low in fat, rich in protein, contains essential fatty acids, phytoestrogens, vitamin E and natural anti-inflammatory agents.
- Wine, known to have a cardioprotective effect, has many important nutrients, which protect vision, heart and blood flow.
- Nuts and berries are nature's most concentrated food sources. Grains, such as flaxseed, are high in the beneficial Omega-3 fatty acids, which help lower cholesterol and stabilise cell membranes.
- Virgin olive oil is a mono-unsaturated oil, and is a healthy alternative to butter and margarine.

Even more elect for health tourism

The number of Britons travelling abroad for surgery rose by 25 per cent last year, with India, Turkey and Hungary among the most popular destinations for health tourists. According to the website Treatmentabroad.net, the most common types of elective surgery for patients travelling abroad are hip or knee replacements, laser eye surgery and cataract removal, with some 10,000 patients spending £37 million in 2007.

Scientists implant hope of a brighter future

Experts believe that many of the conditions that blind 100 people a day in the UK may be reversible thanks to remarkable developments in microtechnology and gene therapy that were once the stuff of fiction



In 1974, when television's Six Million Dollar Man Steve Austin began his high-speed four-year run through the world's television schedules, bionic body parts were the stuff of fiction.

Now, however, more than 30 years on and thanks to giant leaps in microtechnology, scientists around the world are closing in on the reality of a bionic eye – or, at least, the prospect of restoring partial sight to the blind with the use of prostheses.

The loss of sight in major causes of blindness, such as age-related macular degeneration, is caused by failure of the rods and cones in the retina – the photoreceptor cells that convert light into the electrical signals that travel to the brain.

Because the neural pathways that transmit the signals remain intact, a number of groups around the world have been working for years on developing electrical implants for the retina that would act as substitutes for the defunct photoreceptor cells.

One of the most exciting breakthroughs in this technology was announced in February by the Doheny Eye Institute at the University of Southern California.

Mark Humayun, a professor of ophthalmology, had fitted six blind patients with an artificial retina that was fed images from a miniature camera mounted on a pair of glasses. Because the retinal implant consisted of only 16 electrodes, or pixels, he had expected the patients to see little more than an impression of light and dark.

In fact, all six were able to detect light and movement and could even differentiate between objects, such as cups and knives.

One patient, a 58-year-old man who had gone blind in 1993 with the common condition retinitis pigmentosa, described being able to see and even avoid low-hanging branches of trees. He told one newspaper about the emotional moment he had “seen” his

son: “It was the first time I had seen him since he was five years old,” he told the Guardian. “I don't mind saying, there were a few tears wept that day.”

In March, the Institute won approval from the US Food and Drug Administration for the next stage of development, which will involve trials with more than 50 patients. The 60-pixel Argus II Retinal Prosthesis System, which will give higher resolution and is a quarter of the size of the prototype, could be available to patients commercially within two years, at a cost of more than £15,000.

Professor Humayun's long-term objective is a 1,000-pixel version that would allow facial recognition.

The race is on to bring similar technology to the market. German scientists at Tübingen University's Ophthalmology Research Institute announced in March that they had also developed a chip capable of replacing damaged photoreceptor cells. First trials placed the chips around the edge of the retina, allowing some of the trial subjects to recognise light and some patterns, and the next stage is to implant them in the macula, at the centre of the retina, where detailed sight originates.

Walter Wrobel, head of Reutlinger Retina Implant, the company that developed the implant, which is the size of a grain of rice, believes the chips could be on the market by 2009, priced at around 25,000 euros.

Although the implant is a major advance, the Tübingen surgeons have realistic expectations, says Karl Ulrich Bartz-Schmidt, a retinal surgeon in Tübingen. “Aviation pioneers did not fly over the Atlantic right away,” he told Deutsche Welle. “You should not expect too much from the technology. It would be a great success if we could eventually give patients back a limited ability to orient themselves.”

Meanwhile, in a separate development,

the University of Illinois last year released details of research into another approach to the same problem. An implant in the retina features a solar cell that reacts to incoming light by triggering a switch that in turn activates a series of miniature “pumps” that squirt neurotransmitters onto retinal cells.

Microtechnology, however, is not the only approach to the replacement of damaged photoreceptor cells. In May, surgeons at Moorfields Eye Hospital in London announced a world-first trial of a revolutionary gene therapy that could restore lost sight. The first of 12 subjects was 23-year-old Robert Johnson, who had been born with a rare degenerative disorder, Leber's amaurosis, and who before the trial could see little more than outlines of shapes.

Robert Johnson's loss of sight is caused by defects in a gene called

RPE65 and the technique involves injecting healthy samples of the gene into the retina. For safety reasons gaps will be left between the treatment of the trial's 12 subjects and only one eye will be treated in each case. It will be months before the results of the trial are known, but hopes are high at the Institute of Ophthalmology.

“This is hugely exciting, we are on the edge of our seats,” says Phil Luthert, director of the Institute. “If it works it will undoubtedly open the way to new therapies, not only for what we are seeking to sort at the moment, which is a rather rare condition, but for many, many genetic disorders of the retina which are completely untreatable at the moment.”

It would, he said, be going too far to say that if the technique proves a success many of the major causes of blindness could be eradicated virtually overnight.

“Disorders such as diabetic retinopathy, glaucoma and age-related macular degeneration – the big ones – are very complicated. Nevertheless, the excitement is that this is creating a complete new toolbox.

“There is still a lot of work to do but the trial will provide a most incredible impetus to get on with identifying other ways of exploiting gene therapy. There will be, I'm sure, a succession of early wins, but around the same paradigm – a faulty gene that's not working that you then replace.”

Another technique that could have a major impact on several conditions is transplantation. A number of groups, including the Institute and Moorfields, are studying the possibility of replacing damaged cells at the front of the cornea with cells taken from the patient's good eye and multiplied in a culture dish.

“We are now on the cusp of a whole load of basic science being propelled forward,” says Luthert. “Gene therapy is, effectively, now in the clinic, albeit at a trial stage, and I think transplantation and some of these other things are probably going to be out there within five years.

“We're getting much closer and there's a real sense of excitement that this is all beginning to take off after such a long period of hard work.”

At present, scientists are concentrating on restoring sight to those who have lost it. The next step – a gigantic leap – will be trying to help those who are born blind.

A SUNBED FOR THE EYES

One in 2,000 people suffer from keratoconus, a degenerative disorder that weakens the cornea, causing it to thin and adopt a conical shape, distorting sight. Normally, up to 25 per cent of sufferers require surgical intervention, up to and including a corneal transplant, but some clinics are now offering a new treatment, known as collagen cross-linking, that strengthens the cornea and prevents the need for surgery. In this procedure, a kind of sunbed for the eye, the retina is first protected by dye and drops that shrink the pupil before the cornea is bombarded with low-energy UV-A rays, which stiffen it by making the fibres stick together more strongly. Usually, patients can return to wearing contact lenses or, if necessary, can undergo refractive lens surgery or other treatments to correct short or long-sight.

For more details contact the London Centre for Refractive Surgery at www.lcrs.co.uk or on 020 7580 9010.

Give your vision a sporting chance – it's not racquet science

Dangerous work environments are so well regulated these days that according to the Eyecare Trust sport is now the biggest cause of hospital admissions for serious eye injuries in the UK

It comes as little surprise to learn that racquet sports, accounting for thousands of eye injuries every year, are the worst offenders, but every sport can pose a hazard to sight. Football or basketball account for more than 2,000 eye injuries between them, hockey sticks make life less jolly for 340 victims a year and the apparently innocuous shuttlecock sends almost 400 people flying off to accident and emergency departments. Even trampolining can't be trusted – it's responsible for around 50 acute eye injuries annually.

Top of the danger list, however, is squash. The Royal Society for the Prevention of Accidents estimates that squash balls alone cause 2,000 admissions – hardly surprising, when you consider that balls in squash and tennis can travel in excess of 120mph.

Because of its size, a direct hit on an eyeball by a squash ball is more devastating than most such impacts. The

racquet itself is even more harmful, accounting for a further 2,400 injuries.

The answer, of course, is to wear eye protection, whether or not you wear contact lenses or prescription spectacles. Protectors should, says the Eyecare Trust, be lightweight, yet strong enough to take a hit – and this means they should probably be made from polycarbonate. To keep them on, wear them with a fitted elasticated band. And wear them for all racquet sports, not just squash.

“Even a minor eye injury can cause retinal detachment and legal blindness”

Such protection needn't be expensive, so there's no excuse. For instance, the Dunlop Eye Protector, complete with ballistic-tested polycarbonate lenses and impact-resistant frames, is just £20. It comes complete with an elastic headband and the lenses, coated to reduce misting during play, will also offer some protection from UV rays for outdoor sports.

All tastes are catered for by Halo's extensive range, from wraparounds to masks and a selection of junior-size glasses and goggles; there are also goggles designed to fit over glasses. The price range is £15 to £35. Check out titansport.co.uk/eyewear.

Frankly, you'd be crazy not to. According to Sports Medicine Australia, 90 per cent of eye injuries caused by sport could be prevented with the correct eye protection – and the consequences “can be devastating. Eye injuries from sports may cause loss of vision or complete loss of an eye.

“Bleeding within the eye may cause

glaucoma years later. Patients with this condition must be checked by an ophthalmologist yearly for the rest of their lives. Even a minor eye injury can cause retinal detachment and legal blindness.”

Finally, don't neglect your eyes when you are swimming. Swimming in contact lenses alone is asking for trouble – always protect your eyes with goggles. Swimming is a way of life Down Under, and Australia's Vision Co-operative Research Centre

found an increased risk of infection for swimmers who wore contact lenses and issued this stark advice: “Do not swim in your lenses without swimming goggles – you could get an infection which, if left untreated, could lead to a scar or, in rare cases loss of vision.”

One of the nastiest waterborne organisms that can play havoc with the eye is the Acanthamoeba – and Acanthamoeba keratitis, though rare, can cause a great deal of pain and is a potentially blinding condition of the cornea. A study by Moorfields Eye Hospital of 106 cases of Acanthamoeba keratitis in England and Wales showed that one in three of the contact lens wearers affected had been swimming in their lenses. You have been warned!



EYES GIVEN FRESH VISION THROUGH INTRAOCULAR LENSES

A call to have multifocal lens implants made available on the NHS has been made by a delighted recipient of the lenses who has described the “incredible joy” at being able to see properly without glasses



Ophthalmic surgeon
Professor Philip Bloom

“I can't believe this operation. This is what medicine should be all about: it is such a miracle,” said Sandra Lofts, who received the new lenses recently at London's Wellington Hospital.

Having developed cataracts, the 60-year-old was referred to see consultant ophthalmic surgeon Professor Philip Bloom who specialises in cataract surgery.

Rather than having a traditional monofocal lens to replace her aged natural lens, the keen painter and pianist opted for a multifocal ReZoom™ option, which now leaves her glasses-free for both distance and near work.

“I paint for pleasure and like to play the piano, so my middle distance was important, but I also wanted to be able to read the labels in shops without needing glasses.

“Professor Bloom outlined all the options that I could have and we opted for ReZoom lenses. I can't believe this operation and can't

understand why everyone doesn't have it done.

“The day after the operation I was able to open my eyes and focus properly and I realised there was blue light, not just orange and the smudge effect in front of my eye had gone. It is an incredibly undervalued operation,” she added.

“I now don't have to hold books up to my nose to read, or have trouble applying my make-up. I can read the bottom line on the sight chart. It has worked fantastically well,” she added.

Another delighted patient is Val McMillan, a theatre staff nurse from Hillingdon, who normally assists in eye operations, but for once found herself on the receiving end.

“I started to develop cataracts a few years ago but they had become so bad that I couldn't really work. My eyesight was deteriorating rapidly and I was always forgetting my glasses,” said the 62-year-old.

“I went to see Professor Bloom, and he recommended the ReZoom lenses. I never expected a pain-free operation but that was exactly what it was, with both eyes. The experience was very good. I could read well after two days and my vision now is much better than it has been for years,” she added.

Amongst others enjoying the ReZoom lens are sports people – many who have not yet developed cataracts, but who want to be glasses-free. Many presbyopes in their mid to late forties who are dependant upon reading glasses, find that their aging eyes have difficulty adjusting to the speed of fast ball games, including world class golfer, Gary Player, who recently opted for ReZoom lenses, enabling him to see his ball on the fairway.

Some ophthalmic surgeons are further tailoring the use of multifocal intraocular lens implants to the patient's lifestyle. For example, the Tecnis Multifocal™ – which provides excellent distance and near

vision in all light conditions – can be implanted into one eye and the ReZoom, with its excellent intermediate vision for computer work, can be implanted in the other.

“One of the key issues to the success of this operation is to manage the expectations of patients before the lens selection is made,” added Professor Bloom.

Operating at the Western Eye Hospital and Hillingdon Hospital as well as The Wellington, Professor Bloom has been implanting multifocal intraocular lenses for ten years and says the success of these ladies' operations is characteristic of the procedure.

“Their delight is a common outcome of this operation. The surgery is intricate but if it is done well the results are fantastic with these new lenses.”

Concerns amongst potential patients about astigmatism in relation to the operation are unfounded, explains Professor Bloom –

“We can correct this at the same time as the surgery, by making an incision that reduces or abolishes the astigmatism,” he explained.

Accounting for some 80 per cent of sensory input our vision receives too little attention, but struggling with the small print and fumbling for glasses can now be a thing of the past, thanks to this ten-minute operation.

The variable distance powers of these intraocular lenses, which work much like a multifocal spectacle lens, with near, intermediate, and distance powers, provide the flexibility of vision that most of us enjoyed in our youth.

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Whether you are shortsighted, longsighted, astigmatic, or simply can not read your newspaper over breakfast – there's now almost no refractive error that can not be corrected by one of the new generation of brighter and more comfortable contact lenses



Thanks to advances in materials technology there has never been a better time to join the contact lens revolution, liberating yourself from glasses for little more than 50p a day or, if you have been wearing the same type of lens for several years, to consider upgrading.

And if you are considering surgery to correct your eyes, you might want to pause for a moment and consider your options.

"There's no doubt contact lenses can change your life," says Christopher

Kerr, President of the British Contact Lens Association and a practising optometrist, "but in terms of other optical corrections available, the big advantage of contact lenses is that the treatment is totally reversible. If it's not right, you just take them out. If you sit under a laser, it's not quite the same."

Latest figures from the Association of Contact Lens Manufacturers show that in 2006 more than 3.4 million adults in the UK – 7 per cent – were wearing lenses, generating a market worth almost £180 million.

The day of the rigid lens, once undoubtedly the source of the best possible vision but at a high cost in comfort, is all but over, its use confined to 10 per cent of wearers with particular conditions unsuited to the wearing of soft lenses, which now dominate the rest of the market.

King of all are daily disposables, introduced over a decade ago and now worn by 1.2 million people (36 per cent of all lens wearers) but, with the escalation of silicone hydrogel technology, options are changing fast and disposable convenience combined with optimum comfort will soon be within reach of most lens wearers, including those who prefer daily disposables.

Latest contacts

Silicone hydrogel lenses were introduced in 1999, just four years after daily disposable lenses, but "SiHy" has been relatively slow to take off in the UK. Last year, however, fuelled mainly by daily wear, the number of people in the UK wearing SiHy lenses grew by 50 per cent, to almost 640,000, and there is every sign the number will escalate as lens wearers old and new wise up to the amazing properties of these products.

With all contact lenses, health and comfort are linked to the amount of oxygen that can permeate the lens and reach the cornea. A comparison of the relative oxygenation properties of silicone and non-silicone lenses makes the point clearly.

Whereas some ordinary hydrogel lens barely meet the oxygen needs of the eye for daily wear – let alone overnight wear – most silicone hydrogel lenses easily exceed it. The effect is permeability comparable to not wearing a lens at all and the result of that is improved comfort and fewer complications, especially for wearers who suffer from dry eyes.

"Without doubt silicone hydrogel lenses are the next big thing," says Kerr. "This is a material more permeable to oxygen than your own tears."

Although the technology has been around for several years, it is now

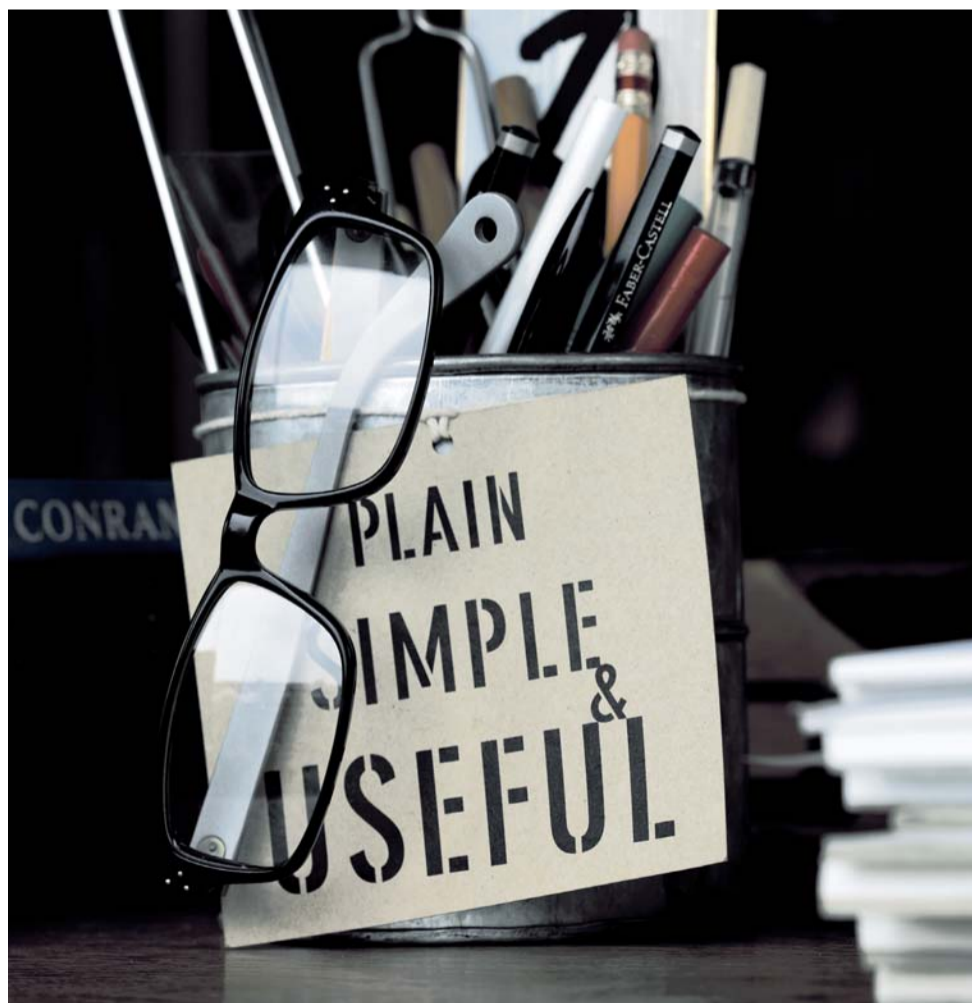


available in more sophisticated forms that are leading to breakthroughs across the market. "We don't have silicone hydrogel dailies yet," says Kerr, "but it's not far away."

Traditional hydrogel soft lenses are made from a water-based material that relies on the high water content to carry the oxygen through to the surface of the eye. The higher the water content, the more oxygen that gets through, but scientists found that

the hydrogel lens couldn't carry enough water for the level of oxygenation necessary for longer periods of wear, which is why normal soft contact lenses are not suitable for wearing overnight.

The new generation of SiHy lenses has solved the problem, virtually eliminating complications caused by oxygen deprivation to the cornea. In a paper published in April, Brien Holden, professor of optometry and director of



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the Cornea and Contact Lens Research Unit at the University of New South Wales, wrote "It makes no sense now and for the future to use anything other than silicone hydrogel lenses."

At the moment there are six such lenses on the market: one daily wear (Acuvue Advance by Johnson & Johnson), two extended wear (up to six nights: Acuvue Oasys by Johnson & Johnson and Air Optix by CIBA Vision) and three continuous wear (approved for up to 30 nights: Air Optix Night & Day by CIBA Vision, PureVision by Bausch & Lomb and Biofinity by Cooper Vision). More options are on the way. On June 2, at the British Contact Lens Association's conference and exhibition at Manchester, CIBA Vision launched Air Optix Individual, a made-to-order SiHy lens, and Japan-based Menicon staged the worldwide launch of its PremiO SiHy lens, CE-approved for daily use and up to seven days' extended wear.

Daily disposable contact lens users may have to wait a little while yet to benefit from the silicone hydrogel revolution, but there are a number of existing options that can improve comfort. Among them are CIBA Vision's Focus Dailies, which feature "sustained moisture release" throughout the day's wear, and Johnson &

Johnson's Acuvue Moist, with an embedded moisture-rich ingredient commonly found in ophthalmic wetting drops.

Convenience is also now the order of the day for those who suffer from astigmatism. Although monthly "toric" lenses for astigmatism have been around for some time, the past 24 months have seen the development of two daily disposable lenses – CIBA Vision's Focus Dailies Toric and, this year, a version of Johnson & Johnson's 1-Day Acuvue.

Two SiHy options are also available: Acuvue Advance for Astigmatism and PureVision Toric.

Other liberating developments are just around the corner in this fast-moving, high-tech market. For instance, in the near future, Wavefront technology – already used to shape spectacle lenses to the detailed requirements of each patient – will allow even disposable lenses to be tailor-made to the precise shape and requirements of each eye.

Perhaps the biggest breakthrough ahead will be in multifocal, or varifocal, contact lenses. With an increasingly ageing and yet active population, more and more people will be looking for a solution to presbyopia – the inevitable deterioration in ability to focus between near and far objects

that can begin as early as 40 – that doesn't involve the hassle or the look of bifocal glasses.

Ingenious daily wear lenses that allow the wearer a seamless shift from close to distant vision, such as Bausch & Lomb's SofLens Multi-Focal and PureVision Multifocal (a SiHy) and Johnson & Johnson's Acuvue Bifocal, are already available, as are CIBA

Vision's Focus Dailies Progressives, the world's first daily disposable contact lens for bifocal wearers.

The next big thing? Although the rise of daily disposables and the increasing uptake of SiHy lenses have brought down infection rates for contact lens wearers, scientists are now working on anti-bacterial lenses that could virtually eradicate such complications.

VisionDirect

VisionDirect.co.uk, established in 1998, was the first company to sell replacement contact lenses direct to customers. VisionDirect.co.uk have very low overhead costs, which in turn makes the prices of contact lenses (brand names such as Johnson & Johnson Acuvue, Ciba Vision Focus Dailies) much more competitive than your high street optician.

www.visiondirect.co.uk

SHOP AROUND FOR THE BEST PRICES

Don't be afraid to shop around. It is vital to have your eyes properly examined and your prescription checked on a regular basis but, providing you are armed with a specification issued by a registered optometrist, qualified dispensing optician or medical practitioner, you are free to buy lenses from a number of different online sources – and at different prices. Check out Asda's online contact lens store, for instance, where deals can bring down the price of lenses considerably. The price of Focus Dailies, the popular one-day disposable lenses from Ciba Vision, can vary widely. A year's supply of 360 pairs will cost you:

£204 at www.asda-contactlenses.co.uk
 £206 at www.visiondirect.co.uk
 £215.57 at www.visionexpresscontactlenses.com
 £232 at www.contactlenses.co.uk
 £252 at www.specsaversdirect.co.uk

Savings can also be made on continuous-wear lenses, such as Bausch & Lomb's silicone hydrogel PureVision lenses, designed to be worn for up to 30 days. A dozen pairs (without solution: some deals factor this in) will cost you:

£79 at www.visiondirect.co.uk
 £93 at www.asda-contactlenses.co.uk
 £96 at www.contactlenses.co.uk
 £97 at www.specsaversdirect.com
 £117 at www.visionexpresscontactlenses.com

Forget Dry-Feeling Eyes – Remember Systane®

Do you ever sit in front of your computer and wonder why your eyes are feeling dry and wish you could find some quick relief? Well, more and more people are suffering from these symptoms but over half of computer users are suffering in silence. A survey by ICM, conducted for Systane® Lubricating Eye Drops, found that computer use is blamed for poor eyesight. Almost half of those surveyed, who used a computer for 25-40 hours a week, believed their eyesight had suffered as a result.

The solution...

Help is at hand with Systane® Lubricating Eye Drops. The fast acting solution offers comfort and long lasting relief for dry-feeling eyes and is available in the original multi-dose bottle and in new convenient preservative-free single dose vials. The handy vials can be popped discreetly in your handbag or briefcase – perfect before an important meeting, a quick drink after work or a freshen-up before a special date.

How Systane® works

Systane® Lubricating Eye Drops have a highly developed formulation that gets to work as soon as the eye drop comes into contact with your eyes. Systane® contains a unique polymer system, which means that, upon contact with your tears, the liquid eye drop turns into

a thin protective gel layer. This thin gel stays on the surface longer than some conventional lubricating eye drops, providing the dual benefit of fast and long lasting relief.

Maintain healthy eyes

To help keep your eyes fit and healthy, the optical experts and makers of Systane®, Alcon®, have developed Eyerobics – simple exercises to help maintain eye health during computer use. Visit www.systane.co.uk

Follow these handy hints to avoid problems and discomfort:

- Have regular eye examinations that include specific testing for computer use
- Use vision correction if needed which is optimised for computer use
- Ensure the screen is below the line of sight. This makes it easier to focus and will ensure more of the eye is covered by the eyelids, therefore the tear film does not dry up as quickly
- Ensure there is no glare or bright reflection on the screen or any bright sources of lights around it
- Ensure that any air conditioning system and/or pulsed air or central heating does not blow on or at the face

- If suffering from dry-feeling eyes use eye drops proactively, that is before using a computer and during use
- To minimize all symptoms follow the 20/20 rule: every 20 minutes take at least a 20 second break, look to the distance and voluntarily blink

For more information about Systane® Lubricating Eye Drops call 0800 092 4567 or visit www.systane.co.uk





Look back in amber

Take a long, cool retro-spectacled peek at the past this summer

Once upon a time, frames were all about function. Now, they are as central to the fashion arsenal as handbags.

With more and more people shunning spectacles in favour of contact lenses, however, it's the summer sun that gives most of us the excuse to play with the way we see the world – and the way the world sees us.

There's no shortage of hip props to help us look cool in the heat. Designers such as Prada, Gucci and Christian Dior have long licensed out their names to eyewear manufacturers, providing a more attainable way to buy into the look of their labels.

But the strength of the British high street's ability to draw on catwalk designs and interpret for their own market extends to sunglasses as much as any other accessory, and means that you don't need to buy the real thing to get the look you want – nor, with their accessible prices, need you stick to just one pair.

Just make sure they carry the CE mark, which shows they conform to European safety standards and that they will protect your eyes from sunlight sufficiently.

The biggest news this season across all brands is the return of heavy frames, especially the Eighties classic, Ray-Ban Wayfarers, though the oversized frames as worn by Kate Moss and most of young Hollywood are still around (as are the aviator styles sported by their male counterparts). Lenses have moved on from the pink-tinted, diamante-studded gradient lenses of the past few years and are either dark brown or charcoal-tinted or deep, paparazzi-unfriendly, black.

Trends in glasses tend to follow trends in sunglasses, so expect to see more elongated, attenuated shapes in both over the next year.

Gently rounded rectangular frames in amber, tortoiseshell or black acetate are always fashionable and as

a version of this, 1950s "cats eye"-style frames are also making a comeback. These are especially flattering because they supply the defining effect of eyeliner, whether or not you wear make-up as well. Look too for this style in pale pastels for even more of a retro effect, with more subtle cosmetic benefit.

If you're looking for inspiration, one of the coolest websites around is retrospecs.co.uk – this enables you to search for retro or modern frames by model, brand or – most importantly – celebrity.

Want the Johnny Depp look? Certainly, sir; that'll be the Retro 50s model RET JD in demi-amber, while Anglo American's AA Wrap S is about as close as you'll get to emulating Brigitte Bardot's white wraparounds.

See yourself in the style of John Lennon? Savile Row's SR Round, at a cool £137. Bet you wish you'd held on to those National Health specials now.

Online vision is the future of business

An innovative new web-based management system designed exclusively for ophthalmic practices is revolutionising the way opticians do business and interface with their customers.

See20/20 was launched last September by specialist software authors Practice Management Services, a limited company owned by the management team, the University of Birmingham, the Creative Fund West Midlands and other investors.

As the world's only web-based ophthalmic practice management software, which sits on remote servers and is accessed through the internet, See20/20 allows users to log in from anywhere in the world, at any time of the day, via a conventional computer and browser.

"See20/20 marks a revolutionary departure for the industry, providing opticians – both independent and group operators – with real-time control over every aspect of their practice," explains Paul Houston, sales & marketing director.

"Opticians can now access all the information they need to make business-critical decisions and greatly improve the service they offer their customers. See20/20 is also totally scalable and a completely outsourced solution."

As See20/20 is rented, there are no upfront costs. Users gain access on payment of the first month's rent, which includes all support and maintenance. Regular software improvements are also included, removing another traditional hidden extra.

See20/20 users sign up to a five-year contract, opting for between one and four components, each charged at £70 a month. "If an optician wants to run a secure, paperless practice they could do so for £280 a month," says Houston.

The system can handle every aspect of the business from appointments to staff rotas, patient details, clinical notes, marketing, dispensing and ordering of spectacles and contact lenses. Integrated into an EPoS till, it can also interface with stock, direct debit, e-commerce and payment-scheme management systems.

Because the system and each individual user's data dwells remotely, security is absolute and based on bank-standard 128-bit encryption. The system is hosted by Rackspace Managed Hosting, one of the biggest providers in the world, which offers a guaranteed zero-downtime network and 24/7 live support. All data is backed up hourly and taken off-site using Iron Mountain.

The practice, which gets its own customised i-Cloo website as part of the package, can even choose to allow patients password-controlled access to parts of the system, enabling them to make their own appointments and order products such as contact lenses and solutions online. Signing up to See20/20 also gives opticians extra buying power – all member opticians are amalgamated into a buying group that makes bulk purchases on their behalf.

See20/20 is rapidly becoming a force to be reckoned with – in a little over six months Practice Management Services has acquired more than 200 accounts, representing 3 per cent of the UK and Irish market, and is aiming for 50 per cent market share within two years.

And because See20/20 is web-based, its reach is global – the latest sign-ups include a chain of 24 stores in Australia, four in the West Indies and a further 20 outlets in the Philippines which are due to go live any day.

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How to give children a clear view of the future

Small problems with sight can grow into big ones if they aren't tackled early and it's never too soon to take a good close look at those baby blues



A survey last year by the Eyecare Trust made the shocking discovery that 70 per cent of British parents of children under nine had never taken their child for an eye test and, what's more, had no intention of doing so.

According to the trust, however, one in five school-aged children have an undiagnosed sight problem that could be affecting their progress at school. Good vision before the age of 12 is vital because it accounts for 80 per cent of the learning process.

It is also important to identify colour disorders early – about 8 per cent of boys and 0.5 per cent of girls have some problems with colour discrimination.

"Some children are inaccurately labelled as slow or poor learners or even dyslexic when in fact they have an undetected vision condition," says Iain Anderson, Chairman of the Eyecare Trust.

Some schools still carry out vision screening, but this is no substitute for a comprehensive examination by an optician. The trust recommends that every child under eight should have an examination once a year, but at certain stages a child's eyes might need to be examined every few months.

There are three key points at which the NHS tries systematically to check all children's eyes. The first is within a month of birth and is normally carried out by paediatricians conducting a general developmental check. In the eyes they are looking for behavioural evidence of sight and any rare but major abnormalities.

This check will pick up children who have been born with cataracts, which may be operated on immediately.

The second screening point is at around one year of age and carried out by health visitors as part of the

general developmental check. They look for obvious signs of a squint, but these are rare at that age.

There is debate about when is the best time to carry out the third universal check of children's eyes. In most areas it is at school entry age, the easiest time to catch the majority of children.

Some conditions, however, benefit from earlier diagnosis, which is why in some areas of the UK the stage-three check is carried out at three and half years.

Some 4 per cent of four-year-olds, for instance, suffer from a squint (strabismus). These start to appear commonly at between 18 months and two and a half years and can't always

be detected with the naked eye. The danger is that because a child's visual system is not fully developed, its brain quickly learns to switch off the image from the faulty eye – a trick beyond the adult brain – and if the squint remains uncorrected this can cause permanent damage to the sight.

"If you don't treat squint it can become a permanent condition," says Richard Smith, chairman of professional standards at the Royal College of Ophthalmologists. "There are still children who get to seven or eight or beyond and it hasn't been picked up at all. Usually when that's the case you find they have missed screening checks."

Short-sight, long-sight and astigmatism are all common conditions which, when necessary, can be corrected in the normal way, with glasses or – if the child is old enough to take proper responsibility for handling and cleaning them – contact lenses. Corrective surgery is not an option until adulthood and even then only when prescriptions have stabilised.

So why don't parents take their children for regular check-ups? The Eyecare Trust survey found that an

unfounded fear of cost was deterring some parents. A third wrongly thought they would have to pay for an eye test. In fact, exams are free up to 16, or 19 if in fulltime education.

Despite the success of the Harry Potter books and films, with their bespectacled eponymous hero, more than half of parents surveyed thought there was a stigma attached to wearing glasses and that their child would be bullied and lose self-confidence. Children themselves weren't so sure: they named Harry Potter and glasses-wearing Peter Parker – aka Spiderman – as role models and more than 60 per cent whose parents wore glasses thought they looked nice; 40 per cent also wanted to wear them.

Although a child's vision isn't fully developed until the age of eight, the trust says it's a common misconception that children's eyes cannot accurately be checked until they can read and it's never too early to take a baby for a proper examination.

"Vision screening checks are often carried out by doctors, health visitors and other medically trained personnel, but these are not as comprehensive as a full eye examination by a qualified optometrist."

Inspects scoops two accolades this year

British eyewear firm Inspects has received the prestigious Queen's Award for international business. Announced in London on the Queen's birthday, the award comes as a huge accolade to the firm, established in 1988, and recognises a rapid growth of 500 per cent in international business in the past three years.

Inspects also scooped the top prize at the Optician Awards for their recently launched "Vision by Conran" collection, designed in collaboration with Sir Terence and his design team, and fending off such esteemed company as Johnson & Johnson, CIBA Vision and Essilor.

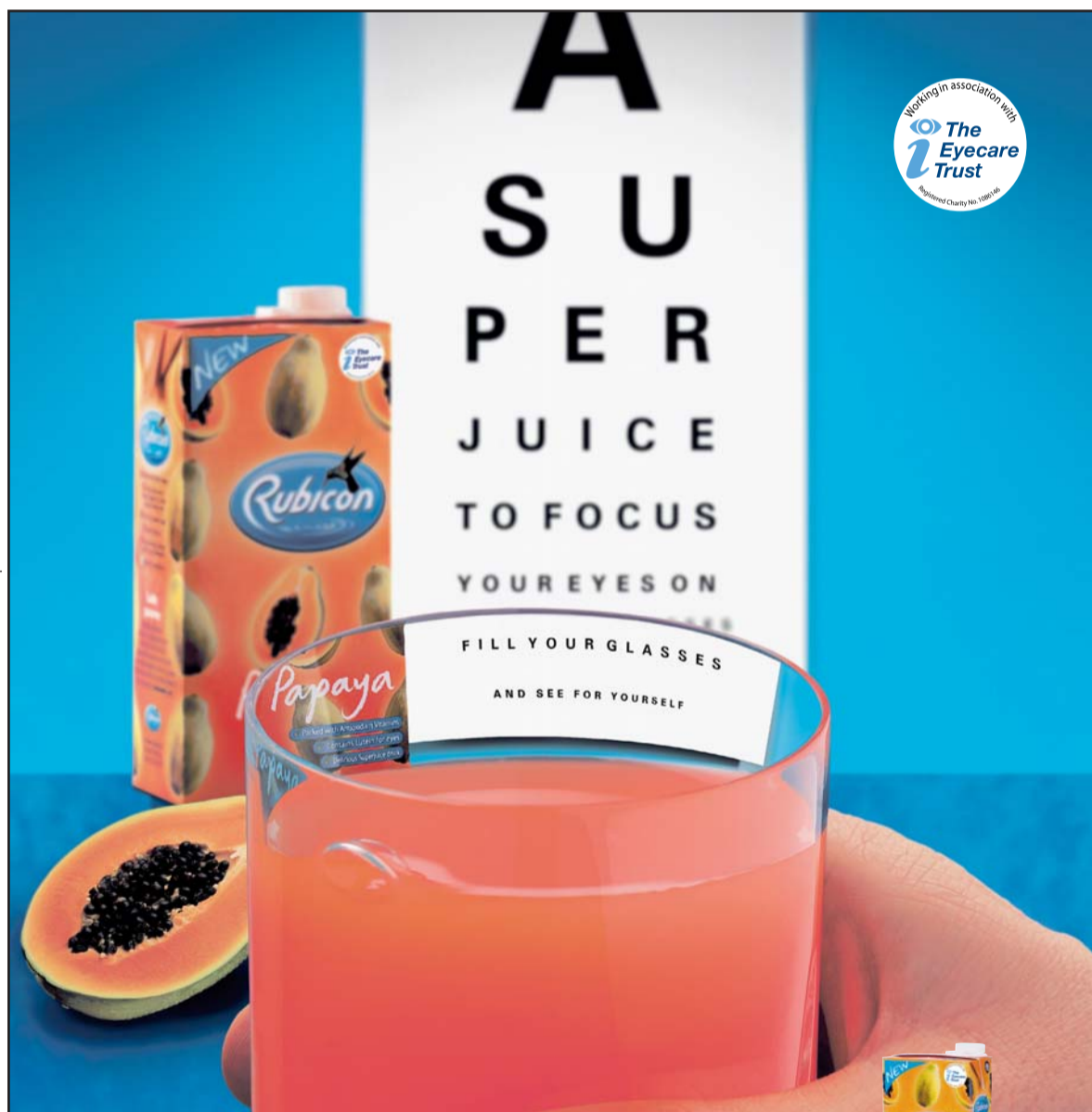
Try it on for size

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Telephone 0844 477 4966 or email info@partights.org.uk

Sharper shooters

According to a report in the Daily Mirror, members of the armed Diplomatic Protection Group who wear glasses or contact lenses are to have free laser eye surgery. A spokesman for the Metropolitan Police said: "This will be of long-term benefit to the organisation and to individuals by enabling them to remain in these critical posts for a longer period."



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Find out more at www.rubiconexotic.com or www.eyecare-trust.org.uk



Major breakthrough in battle on blindness

A ground-breaking surgical therapy capable of restoring sight in the vast majority of patients who currently suffer blindness through age-related macular degeneration (AMD) is to be taken to clinical trial within five years by scientists and clinicians at the UCL Institute of Ophthalmology, Moorfields Eye Hospital and the University of Sheffield

Around 25 per cent of people over 60 in the UK have some degree of visual loss due to AMD, and some 14 million people in Europe currently suffer blindness through the condition, caused by defects in the retinal support cells. There is currently no treatment that prevents the treatment of dry AMD. There has been some success in controlling new blood vessel formation in wet AMD but these approaches are

suitable only for certain patients and are often only temporary.

On June 5 it was announced by the UCL Institute of Ophthalmology that a new therapy, using human embryonic stem cells to replace the faulty retinal cells that cause AMD, are to be developed by the London Project to Cure AMD, a scientific collaboration bringing together some of the leading specialists in the field.

Thanks to a £4 million donation from a US private donor, the London Project will now be able to assemble the necessary spectrum of scientists and clinicians, led by the UCL Institute of Ophthalmology, to accelerate the technique's move from laboratory to clinic. Professor Pete Coffey, of the institute's Division of Cellular Thera-

py & Visual Sciences and Director of the London Project, said: "The London Project aims to deliver treatment for a disease which has no alternative therapy. Using stem cells – which are far more adaptable – can only improve success of what has already been achieved and in addition establish this as a global therapy."

Dr Lyndon Da Cruz, lead clinician and consultant ophthalmic surgeon, Moorfields Eye Hospital, said: "Clinical trials could begin within five years. Given AMD could affect up to one third of the population by 2070, and that the bulk of these will have dry AMD, the potential to create a treatment strategy for this condition is critical and may have a major impact on vision loss in the community."



Opt for laser surgery with your eyes wide open

It's easy to be dazzled by two-for-the-price-of-one offers and the prospect of free holidays, but your vision is priceless and cost should be the last factor in your sights when you are considering the pros and cons of corrective laser surgery

Anyone considering having surgery to correct poor vision faces a bewildering choice of techniques and offers, but the decision should not be taken lightly and should certainly not be based on price alone, or the offer of a free holiday.

"Unfortunately, every laser clinic out there is the best, every surgeon the most experienced and every laser the most advanced," says optometrist Daryus Panthekey, Technical Director of London- and Birmingham-based Accuvision Laser Eye Clinics (www.accuvision.co.uk).

"As one patient said to me, 'It's a minefield of misinformation out there, isn't it?'. He was right, it is."

As a result, it is vital to do your homework first. Everyone's eyes are different and what worked for a friend might not work for you. It is also important to manage your own expectations of what eye surgery can achieve. When the Medical Defence Union reported in 2003 that negligence claims relating to laser eye surgery had increased by 166 per cent, it found that the majority of complaints could be blamed on patients' "unrealistic expectations".

"Most people come in expecting never to need their glasses again," says Panthekey. "By and large most people will attain their vision goals, but some may not – perhaps 4 to 6 per cent. We will only proceed to surgery if we feel that they have taken this point on board. Disappointment is one of the most contentious issues clinics have to deal with if their consenting process is inadequate."

Price is obviously important and can vary from as little as £395 to more than £2,000 an eye for similar treatments, but consider the whole story: the consultation, the surgeon, the clinical support and, equally important, the aftercare. However well an operation has been carried

LASER SURGERY: WHICH TECHNIQUE?

Lasik (Laser-Assisted in Situ Keratomileusis) is the most common technique in use, not least because it is capable of correcting anything from low to high levels of poor sight, generally causes less discomfort than other methods, requires less recovery time and allows both eyes to be treated at the same time. The operation takes about ten minutes and you can expect to be back at work within 48 hours.

The surgeon opens a flap on the cornea, using either an automated microkeratome – a precision surgical instrument – or a laser equivalent. The exposed area is reshaped by an excimer laser that vaporises a layer of tissue. The flap is then closed and held in place by natural suction.

Wavefront-guided Lasik is a refined variation that customises the treatment to individual patients by using sophisticated equipment to map the profile of the eye and guide the excimer laser accordingly. One advantage of this technique is a reduction in the reported incidence of halos seen at night around sources of light.

PRK (Photorefractive Keratectomy) was the first laser technique, introduced in the 1980s, and is best suited to treating only low to medium levels of short sight, long-sight and astigmatism. Although its use has been largely superseded by Lasik, PRK is still in use. Because it is a less technical procedure there are fewer potential complications and, because it does not involve the lifting of a flap, PRK can be used to treat thin or flat corneas, for which Lasik is inappropriate.

PRK works by removing a layer of tissue from the centre of the eye, flattening the cornea to refocus the vision. Although simple, the downside of this is that because the surface layer of the cornea is removed there is more discomfort, healing takes longer and best vision might not be achieved for as long as three months. Because of this, only one eye is normally treated at a time. On the plus side, millions have had the treatment over the past three decades and its long-term safety record is well established.

Lasek (Laser-Assisted Epithelial Keratomileusis) is a variation on PRK in which the outer protective layer of cells, known as the epithelium, is first softened with dilute alcohol and moved to one side. The laser is then used to shape the cornea as in PRK before the epithelium is pushed back into place. As with PRK, the risk of complications is lower but the post-operative discomfort can last for a day or more. Both eyes can be treated at the same time but it can be weeks before 20/20 vision is achieved.

out, there can be post-operative complications and it is important to have the right support available. It might seem tempting to combine a holiday with cheap eye surgery, but aftercare that's an eight-hour flight away is no aftercare at all.

The risks of laser surgery are small, but it is still important to know what you might be getting yourself into. In March 2006 the National Institute for Health and Clinical Excellence (NICE) responsible for national guidance on

health treatments, published its findings of a review of studies carried out on the three main types of laser treatment – PRK, Lasek and Lasik. All three appeared to be equally effective in correcting shortsightedness and astigmatism, although with marginally different success rates.

Complications also varied. Studies that had compared patients' sight with glasses before treatment and without glasses after treatment found that the overall chance of eyesight being worse after surgery was 0.5 per

cent (five in 1,000 people) in PRK and 0.6 per cent with Lasik. With Lasek, the risk was said to be zero.

Lasik, however, has other advantages. Other possible complications of laser surgery, NICE reported, included "difficulty seeing in dim light, a haze effect, seeing 'halos' of light around things at night, and problems with glare at night", although glare and night-vision problems were less common after Lasik.

It is, however, important to keep the risks of laser surgery in perspective.

People who wear daily contact lenses face a one in 2,000 risk of serious vision loss as a result of infection, while the risk associated with Lasik surgery is more like one in 10,000.

The crucial thing is not to rush into a decision and not to hesitate to ask practitioners for evidence of success rates. The first step with the London Vision Clinic, for instance, is an initial screening by a Patient Education Consultant, which takes place before an ophthalmic examination. The clinic, which claims that 97 per cent of its shortsighted patients have 20/20 vision or better after surgery, also posts its outcomes on its website (www.londonvisionclinic.com).

There are also a number of independent yardsticks against which individual practices can be measured. All clinics that perform laser eye surgery must be registered with the Healthcare Commission, which has approximately 150 such organisations on its books. Each one is inspected as part of the commission's registration process and the inspection report can be found on the commission's website (www.healthcarecommission.org.uk).

All operators must also comply with guidance issued by NICE, which says that doctors offering laser surgery should make sure patients understand the risks, as well as the benefits, of any treatment, which include less than expected improvement in vision, the development of new eye problems, infection of the cornea and long-term problems with the flap that is created.

NICE's guidance and latest advice for patients can be found at www.nice.org.uk. The Royal College of Ophthalmologists has also produced guidelines for treatment and training standards, which can be found at its website, www.rcophth.ac.uk.

Look out for your eyes and they will look out for you

In an era when many people are obsessed with the way they look, few are concerned with the way they see, yet how we take care of our eyes when we are younger can have a major impact on our quality of life as we age

Looking after our eyes means two things: regular sight checks and a healthy lifestyle. The first part is easy: the NHS says that most people between 16 and 70 should have their eyes examined no more than once every two years and these examinations will pick up many serious eye problems at a stage when something can still be done about them.

An eye-friendly lifestyle, however, is a tougher commitment – it requires day-to-day willpower for no immediately apparent gain in quality of vision. Nevertheless, regular aerobic exercise, sensible drinking habits and a balanced diet all play a part in warding off some of the more common eye problems that can creep up on us in later life.

Few people, however, have yet cottoned on to what experts now believe may be the single biggest preventable cause of sight loss – smoking.

The biggest cause of blindness in the UK is age-related macular degeneration (AMD), the first symptoms of which may be a blurring or distortion of central vision, and the connection between smoking and AMD has been made only in the past decade.

One of the leading researchers in the field is Simon Kelly, a consultant ophthalmologist who runs a clinic for macular degeneration at the Bolton Eye Unit. He spotted that many of his patients with AMD were also smokers, triggering research that has led to a campaign by the Royal College of Ophthalmologists to get the stark message “Smoking causes blindness” printed on packets of cigarettes.

“The main cause of AMD is advancing age,” he said, “and none of us can do anything about that. Another cause is genetic and again we can’t do anything about that. But the leading modifiable cause of AMD is smoking, and we can do something about that.”

A survey published by the college in February revealed that while 80 per cent of 16- to 18-year-olds knew smoking caused lung cancer, only a tiny minority had any idea that it could make them blind. More said they would be persuaded to quit smoking because of the risk that it would make them blind than because of the threat of lung cancer or heart



disease. Other surveys found a similar level of ignorance about the danger among the general public and patients attending hospital clinics.

With AMD, the macula – a layer of light-sensitive tissue at the centre of the retina – degenerates over a period of time, gradually leading to an irreversible loss of central vision that is responsible for 38 per cent of sight loss in the UK.

Doctors believe that smoking harms sight primarily by damaging the small blood vessels in the retina and the choroid, the membrane separating the retina from the sclera, the outer coat of the eye.

Although ultimately AMD is down to genetic susceptibility, smokers are at risk of developing the disease a decade earlier than non-smokers. Of the two types of AMD, wet and dry, the most common is dry, accounting for 90 per cent of cases.

Although it progresses slowly, there is no cure. Because AMD normally starts in one eye, the other compensates for the defect and the first clues often go unnoticed. Some treatments can delay or even reduce sight loss caused by wet AMD, but it progresses rapidly and can be detected only by regular check-ups.

Glaucoma is one of the biggest threats to vision, affecting two people in every 100 over the age of 40. Not

for nothing is it known as the “thief of sight” – there is no screening test and, in the early stages, no symptoms, but it can result in severe, irreversible loss of sight. The only realistic chance of catching it in time to do anything about it, says the National Institute for Health and Clinical Excellence, is through “opportunistic detection at routine optometric testing”. And the earlier the better: treatment – the reduction of pressure in the eyeball, either medically or surgically – will slow or halt the advance of glaucoma, but not reverse it.

Diabetics are at risk from diabetic retinopathy, a condition that can lead to avoidable blindness. Type 2 diabetes itself, developed by men and women over 40 at an average age of 52, is largely a product of lifestyle – although there is a genetic susceptibility, people who are overweight or not very active are most at risk.

Luckily, however, diabetics can now be screened by the NHS for diabetic retinopathy.

However, although there are about 1.4 million known diabetics in the UK, doctors believe that as many again have not been diagnosed. For them, routine screening by optometrists that will detect early signs of diabetic retinopathy is doubly important, as it will detect their underlying and unrecognised diabetes.

The pressure's on

Orthokeratology is an ancient technique that's come of age thanks to new technology – and now you really can improve your eyesight in your dreams

You probably shouldn't try this at home, but some 3,000 years ago the Chinese hit on an ingenious temporary solution for short sight. They found that if you spent the night with sandbags on your eyes you'd wake with improved vision that would last at least long enough to allow you to go out and hunt down your lunch. The sandbags worked by flattening the cornea and refocusing the incoming light rays. Today the technique is enjoying a comeback as orthokeratology, or Ortho-k, in which a special rigid gas permeable contact lens, carefully fitted to the precise contours of each eye, is worn overnight, flattening the cornea by less than a hair's width.

In the morning – hey presto! A day's worth of spot-on vision, free of glasses and contact lenses. Some patients have reported that the effect lasts even longer and that they have to wear the lenses only every other night.

Ortho-K has been popular in the US and in other parts of Europe for some years, but is only now beginning to take off in the UK. Earlier versions of Ortho-k achieved less accurate results but now new equipment and software is used to map the cornea, taking 80,000 reference points off each eye, and calculate the degree of flattening required before lenses are made to order.

Change is rapid – most takes place over the first night of wear. Crucially, research has shown that, unlike laser surgery, the process is completely reversible. Stop using the lenses and your vision returns to however it was before the correction. The downside is that Ortho-k cannot cope with myopia much beyond -4.5, and astigmatism up to -1.50. Also, if you are older than about 45 and normally take off your distance glasses to read, after undergoing Ortho-k you will probably find you need reading glasses.

However, Ortho-K could be an excellent solution for teenagers and even younger children. Simple and reversible, some studies also indicate that Ortho-K may even slow down the onset of myopia.

Optometrists Jane and Gary Pullan, from Spalding, Lincolnshire, are using the technology on two of their most important patients – their daughters Emily, 11, and Becky, 15, both of whom are shortsighted.

“The freedom of not wearing anything in their eyes during the day enables them to do everything without a second thought,” said Gary Pullan, who works at Specs 4 Less in Spalding.

“After the initial fitting both girls were given the opportunity to go back to spectacles or disposable contact lenses. Neither of them was willing to give up their new-found freedom.”

Another satisfied customer is Emma Goudge, a 30-year-old paramedic from Newquay, Cornwall, who had worn glasses for shortsight since she was at school.

“I used to have to go out to work with glasses, contact lenses, prescription sunglasses and sometimes a spare pair of glasses, as I was always breaking them,” she said. Now she feels liberated: “It has made a big difference to my job, my home life and my social life, as I enjoy swimming and aerobics, which is easier now.”

Ortho-k lenses have to be replaced every six months and the cost of the treatment is comparable to wearing a pair of quality daily disposable contact lenses every day.

Ortho-K can't yet be found everywhere – there are 20 outlets offering the technique in London, for instance, but only a handful in Wales and Scotland – but more opticians are coming on board all the time. More information at www.orthoklenses.com



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Shades – get the look and keep your sight

CONTACTS THAT BAN THE RAYS

Contact lenses are increasingly available with UV protection. Acuvue Oasys lenses, for instance, block more than 96 per cent of UV-A and 99 per cent of UV-B rays, meeting the highest UV-blocking standards for contact lenses. However, because contact lenses cover only the centre of the eye they should not be regarded as a substitute for sunglasses or sports goggles. Nevertheless, used in conjunction with sunglasses, they can only increase UV protection and on cloudy days, when harmful rays are still present, they will offer better protection for the eyes than normal contact lenses.



Excessive sunlight isn't bad only for your skin. Light from the blue and ultraviolet reaches of the spectrum has been linked with a number of serious long-term problems for eyes, including cataracts and, most seriously, age-related macular degeneration (AMD), the biggest single cause of blindness in the UK

The first clue that your eyes have had too much sun may not be the last, although it will be bad enough – excessive exposure to UV rays can lead to a sunburn-like condition called photokeratitis.

"The symptoms of photokeratitis normally clear up quickly and cause no permanent damage to the eye. However, unprotected exposure to the sun over a long period of time greatly increases your risk of developing cataracts and other age-related conditions which can seriously impair vision."

By the time you reach your fifties or sixties, however, it's too late to start worrying.

"One study has shown that spending five or more hours outside every day in the summertime during your teens and early adult years could increase your risk of AMD by as much as 50 per cent," says a spokesperson for the Guide Dogs for the Blind Association, which runs the annual Shades Day.

Other research has shown that, because young people spent a relatively large amount of time outdoors, by the age of 18 most people will have absorbed half a lifetime's worth of UV rays.

It is, in other words, never too early to start protecting eyes – and children are thought to be especially vulnerable to sunlight because the lens, cornea and fluid in their eyes are all much clearer than in adults, allowing more light through.

There are two crucial things to check on the label when buying sunglasses and price isn't one of them (the European Sunglass Association says one in four Britons expects to spend an average of £50 on sunglasses, but that good protection can be had for less). The first is that they comply with British and European safety standards (look out for British Standard BSEN 1836:1997 and the CE mark) and the second is that they block out between 99 and 100 per cent of both UV-A and UV-B rays.

One of the most dangerous myths about sunglasses is that the darker the lens, the better the protection for the eye from the harmful effects of the Sun's rays. The reality is that if the lenses don't have proper UV protection, the darker they are the more your pupils will dilate, allowing in even more of the harmful rays.

Design can also play in part in

protecting your eyes. The Eyecare Trust recommends wearing sunglasses with large lenses or wraparound frames. This offer the most protection by preventing sunlight getting into your eyes from the sides – in some designs this compromises protection by as much as 50 per cent.

Photochromic lenses that change colour according to light conditions have come a long way over the years and are now a convenient and safe alternative to carrying around a pair of prescription sunglasses. Modern photochromics can be fully UV-protected – check the label – change rapidly and clear almost completely and, if treated with an anti-reflection coating, allow through almost as much light as normal clear lenses. This is important if you are suddenly caught in low-light conditions, especially when driving.

“It is never too early to start protecting eyes – and children are thought to be especially vulnerable to sunlight because the lens, cornea and fluid in their eyes are all much clearer than in adults”

Why the UV numbers game is ultra important

Rod Lane is a man on a mission to protect our eyes. Luckily, as President of the European Sunglass Association and managing director of Fabris Lane, the largest manufacturer of sunglasses and optical frames in the UK, he is well placed to do something about it

"The lack of awareness about how the sun can damage eyes is frightening," Rod Lane says. "We spend so much time and money protecting our skin, but although the eyes generally don't feel any pain from UV rays the tissues are so much more delicate."

As well as its own brands, Fabris Lane supplies most of the high street fashion lines, a market dominance that accounts for an output of four and a half million pairs a year.

Rod Lane is passionate about function as well as form. Through his presidency of the ESA, whose objective is to increase consumer awareness of the importance of wearing good quality sunglasses, he is determined to introduce changes to the regulations that govern the amount of protection offered.

"The sunglass standard doesn't require the manufacturer to cut out all UV and that is something the ESA is lobbying about," says Rod.

Human eyes can see only a fraction of the spectrum and the band visible to us – measured as between 380 and 780 "nanometers" – is sandwiched between potentially harmful ultraviolet rays at one end and infrared at the other.

"Instead of allowing some UV radiation to be transmitted, safety standards should be changed to call for sunglasses to block all harmful radiation up to 380 nanometers and

only then should manufacturers claim 100 per cent UV protection," says Lane.

"Everything I sell is UV400 that gives protection way beyond the standards, ensuring no UV or the highest energy blue light is transmitted to the eyes. It would be great if more manufacturers went this extra stride."

Price is no excuse – Fabris Lane's commitment to protection means that its entire output, from value fashion shades as low as £10 through to designer fashion ranges for over £150, is UV400 protected.

Children are especially susceptible to sun damage: their eyes let through more UV and, by the time a person is 18, they will have absorbed more than half a lifetime's worth of UV rays.

It's vital, therefore, that children wear sunglasses to the highest standard and Fabris Lane's Monkey Monkey brand has brought fashion to the market in a bid to keep young eyes under UV400 cover.

"Children without sunglasses is a timebomb," says Lane. "With too much exposure when you are young, one day you can just hit a problem such as age-related macular degeneration. One minute you can see, the next the centre of your vision is blurred. There's nothing you can do about it but you could have put it off by wearing decent sunglasses."



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Laser's not the only show in town



Latest is not always greatest and laser surgery might not be the right approach for you. Alternatives include traditional microsurgery, with its long pedigree of safety and success, and revolutionary reversible techniques that can give you with the ability to see near and far

Laser surgery is not the only surgical solution for short sight and astigmatism. One of the most established alternative procedures is radial keratotomy, a well-proven "low tech"

technique, also known as diamond microsurgery, developed more than 30 years ago by the Russian pioneer Svyatoslav Fyodorov. Among the advantages RK has over

the newer laser techniques is the longest safety record of all procedures in use today – millions have undergone the procedure. It is also a less invasive treatment than Lasik, complications are rare and it can even be used to correct occasional problems caused by laser surgery. The disadvantage is that the technique is suitable only for correcting low to medium levels of short sight (-7) and astigmatism.

In an operation that takes only a few minutes, the eye is desensitised with anaesthetic drops before the surgeon uses a tiny guarded diamond scalpel to make a few short, microscopic "bicycle spoke" incisions, approximately half a millimetre deep, radiating out to near the edge of the cornea. When these heal, the cornea is flattened, bringing the focal point of the eye closer to the retina.

The irony is that as laser surgery has come to dominate corrective eye surgery, the early flaws of radial keratotomy as pioneered in Russia have been eradicated. Some early patients went on to suffer eventual long-sight, but this complication was eradicated by the use of shorter incisions that by stopping short of the white of the eye avoided nicking a ligament.

The leading proponent of this "mini" radial keratotomy in the UK is the London Centre for Refractive Surgery, 20 years old and the first

private clinic in the UK to specialise in refractive surgery. The centre, run by father and son surgeons William and David Jory, has carried out almost 20,000 microsurgery procedures and actively rejects the use of laser technology. "Microsurgery has been around for over 30 years," they say. "It has an unmatched safety record."

For patients who feel that new technology must by default be better technology, they point out that microsurgery "is a different technique, not replaced by laser. It does not rely on removing tissue, however accurately that is done. It relies on the body's own healing process."

The procedure uses failsafe equipment. "There is a guard on the diamond so it can't go any deeper than planned and then because of the design it will go in a straight line outwards," says David Jory. "Opticians often say 'You must have an amazingly straight hand' and I have to confess, no, it's the design."

One eye is treated first and the second a month later, in case the treatment needs to be modified. Jory has complete faith in the procedure – and knows how it feels. His father carried it out on him 16 years ago, along with his wife and brother. "It is," he admits, "a funny feeling being on the other side of the microscope."

Another alternative solution to

sight problems is refractive lens exchange, a technique also used by the NHS to treat cataracts. In an operation identical to that carried out to treat cataracts, the natural lens is removed and replaced with one of a new range of artificial multifocal lenses that can give good close and distant sight right into old age. Such lenses, however, are not available generally on the NHS, which fits cataract patients with traditional monofocal lenses, meaning they will continue to need glasses for reading.

After lens exchange with multifocals, some 80 per cent of patients never use glasses again. The operation removes the possibility of cataracts later in life and some have been carried out on patients as young as 40. The cost is from around £2,500 per eye.

Another widely available option, especially for those whose eyesight is too bad for correction by radial keratotomy, is to have a corrective, or "phakic", lens implanted in the eye between the cornea and the iris.

The latest versions of these intraocular lenses (IOLs) are foldable and can be inserted in an operation that lasts just 15 minutes and requires no stitches.

The lens is folded into a cylinder shape and injected into the eye with a syringe through a 3mm incision. Once in place, it unfolds like a ship in a bottle. The advantage of this operation, aside from the fact that it does not remove the natural lens and is reversible, is that it can be used to treat a huge range of refractive error – from minus 25 to plus eight. The cost is from £2,500 an eye.

Eat more fruit and vegetables to keep your eyes looking good

It's true what they say, you are what you eat. It has been proven that eating at least three portions of fruit and vegetables can have a positive effect on your eye health.

Dr Eperjesi, an optometrist from Aston University who lectures in the field of ocular nutrition and eye disease says, "Research has shown that just three portions of fruit and vegetables a day can reduce the risk of some eye problems by a third. Carotenoids and antioxidants, which are contained within leafy green vegetables such as spinach and kale, may help to keep eyes healthy."

Whilst it is not always possible to eat as much fruit and veg as you need, you can take ICaps®, which helps boost your intake of essential vitamins and minerals found naturally in vegetables. ICaps® is a dietary supplement specially formulated for the maintenance of healthy eyes. ICaps® contains antioxidant vitamins and minerals, plus lutein and zeaxanthin, nutrients which occur naturally in the macula, (the area of the eye where the incoming rays of light are focused), and are thought to help to protect the eye by reducing oxidative stress and absorbing damaging blue light from the sun.

Lutein, which is found naturally within leafy green



vegetables and is also in ICaps®, is essential to maintaining good eye health. Lutein is a carotenoid (a natural colourant or pigment), which provides nutritional support to our eyes and skin. Other studies suggest that a mixture of nutrients, including lutein, may provide supplemental antioxidant capacity to the

skin, helping counteract free radical damage.

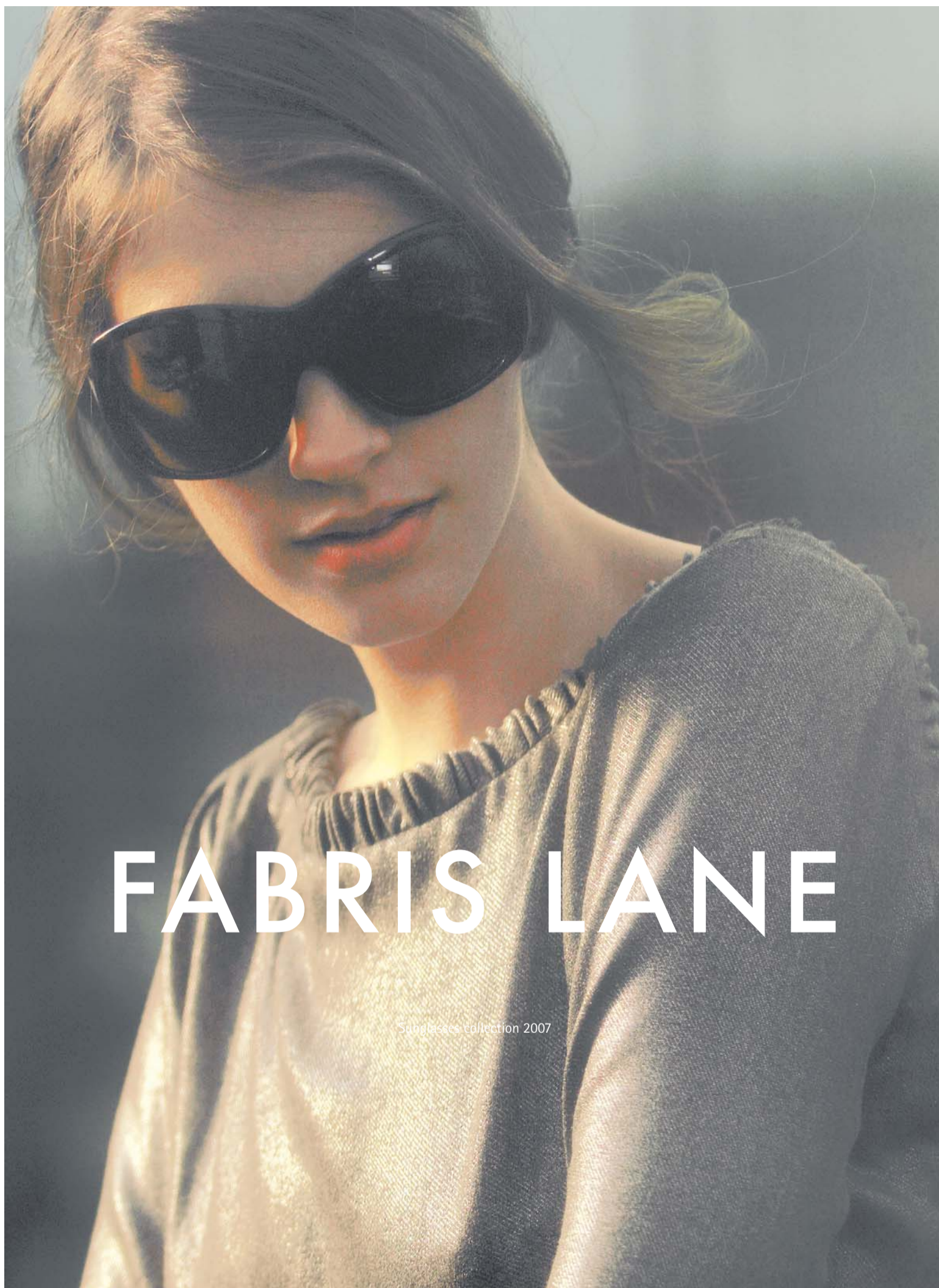
ICaps® is the most frequently recommended ocular supplement by Ophthalmologists and Opticians. A pack of 60 tablets costs £9.95 and is available from Opticians and Pharmacies nationwide.

Top Tips For Healthy Eyes

- Eat a healthy and balanced diet – Try to eat five portions of fruit and vegetables a day (preferably including green leafy vegetables like kale and spinach)
- Have regular eye check ups – Visit your optician regularly as eye conditions can be detected in the early stages and action taken. Between 50-75 years of age, you should have an eye check every two years. However, everyone is at risk from vision problems whatever their age
- Always wear sunglasses in the sun – Always wear UVA and UVB protected sunglasses in the sun to avoid potential UV damage

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