

Your guide to  
**IntraLASIK**

*better technology, better results, better vision*



Centre for Sight, a leader in the surgical correction of shortsight, farsight and astigmatism, was established in 1996 by a consultant ophthalmic surgeon, with special expertise in corneal refractive surgery.

Designed to provide first class surgical eye care, Centre for Sight offers a range of services, including cataract surgery, glaucoma care, corneal transplantation and oculoplastic surgery.

# Why choose Centre for Sight ?



## experience

To give the reassurance of high standards, the surgical centre is located in the world renowned Corneo Plastic Unit and Eye Bank at the Queen Victoria Hospital NHS Trust, East Grinstead. The Corneo Plastic Unit specialises in corneal transplantation and is a referral centre for complex corneal conditions. The director of both organizations was the recipient of the Department of Health "Leadership in Improvement Award 2008" in the South East Region.

## continuity of care

All preoperative consultations are performed by a fellowship trained Corneal surgeon. Nursing and technical staff also assist in the consultation, investigative and operative processes. Good outcomes are based on teamwork and we believe it is important that you see the same familiar faces each time you visit. Our phones are answered 24 hours a day with a surgeon available in the rare event of a medical emergency.

## safety

Safety is of paramount importance and we will not compromise. Each eye is treated individually with freshly sterilised instrumentation and a new set of disposables (other centres usually use the same devices on both eyes). In addition, if there is a technology that we feel will be of benefit to our patients, we have no hesitation in investing.

## personalised care

All treatments are individually tailored to suit the patient based on a number of factors including their age, corneal shape, wavefront aberrations, pupil size and level of correction. We are well versed in dealing with complex patients who have been turned down by other centres or have had poor outcomes and are able to deal with extreme levels of correction including astigmatism.

## excellence

We are a reference site for both Bausch & Lomb and Intralase. With our reputation for excellence, our consultants provide training and advice to the industry. Our Medical Director has developed new instrumentation used worldwide for IntraLASIK, refractive surgery and corneal transplantation.

## innovation

IntraLASIK and pioneering methods of treating complex conditions with innovative techniques, such as stem cell transplants, have placed Centre for Sight at the forefront of the international eye care arena. The worldwide media, including the **Daily Mail**, **The Times**, **BBC**, **ITV** and **SKY News**, regularly covers stories from our centre.

### Suggestions / Feedback

We appreciate feedback and suggestions from you, our patients. If you have any suggestions as to how this brochure may be improved, please do not hesitate to contact us at:

Centre for Sight, Queen Victoria Hospital, East Grinstead, West Sussex RH19 3DZ or e-mail: [enquiries@centreforsight.com](mailto:enquiries@centreforsight.com)

This brochure, produced by the Centre for Sight, details the procedure and explains how the process works. It is intended for informational purposes only. There may be minor deviations in reality as each individual is different and thus requires individualised care. This brochure is not intended as a substitute for professional medical care. Only your eye specialist can diagnose and treat an eye problem.



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# What does IntraLASIK stand for ?

The "Intra" component denotes the use of the revolutionary **Intralase Femtosecond laser** to perform the first step of the procedure. The LASIK portion is an abbreviation for Laser Assisted in Situ Keratomileusis.

LASIK requires creation of a flap at the front of the cornea in order for the laser to reshape its interior. Since 2004 100% of LASIK procedures at Centre for Sight have been performed using Intralase. This highly accurate laser creates the flap with micro precision, and is safer than the less precise traditional method of LASIK with a microkeratome and blade used at many other laser centres.

## Why choose IntraLASIK ?

IntraLASIK we believe is the **gold standard** in vision correction surgery today.

IntraLASIK is a same day procedure – you usually enter and leave the laser centre within hours.

There are a number of important benefits to laser vision correction using IntraLASIK:

- **Safety**

As a **blade free** procedure it eliminates the risk of major blade and mechanical device related complications. Use of disposable instruments for each eye, significantly reduces the already rare risk of infection.

- **Better outcomes**

Demonstrated worldwide as well as at Centre for Sight, IntraLASIK recipients consistently obtain better levels of vision beyond 6/6 or 20/20 (see our latest results online or request a copy).

- **Wider range of candidates**

Substantially higher level of accuracy allows a larger number of patients previously unsuitable for traditional LASIK surgery (because of thin corneas or high prescriptions) to be treated.

- **Reduced risk of dry eye**

The accuracy of the Intralase enables reliable creation of THIN flaps thus avoiding deep nerve bundles in the cornea, considerably reducing the risk, severity and recovery time of dry eye\*.

- **Lower enhancement rates**

With IntraLASIK at Centre for Sight this is only 1% for myopia †. Typical retreatment rates for traditional LASIK are between 4 and 10%.

- **Rapid restoration of vision** (within hours of surgery)

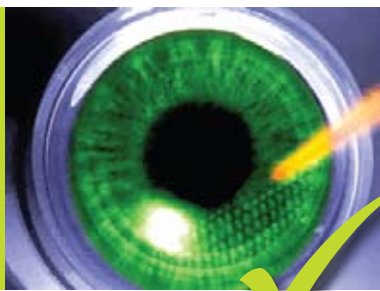
- **Highly predictable**

- **Both eyes can be treated on the same day**

- **Minimal discomfort**

- **Wider range of correctable prescriptions +5.00 to –12.00 diopters**

- **Treatment of Astigmatism up to 5 diopters (and more in selected cases)**



IntraLASIK: Flap being created using Intralase



Traditional LASIK: Flap being cut using a blade

\* Randomized Prospective Clinical Study of LASIK: Intralase Laser versus Mechanical Keratome, 2004, Daniel S Durrie M.D.

† 700 Consecutive eyes following installation of Intralase, August 2004.

# How does IntraLASIK work?

The cornea, a small area of transparent tissue at the front of the eye, provides two thirds of the eye's focusing power. Altering its shape changes the power of the eye. IntraLASIK flattens the cornea to correct **shortsightedness (myopia)** or steepens the cornea for **farsightedness (hyperopia)**. The reshaping process can also be used to correct **astigmatism** at the same time.

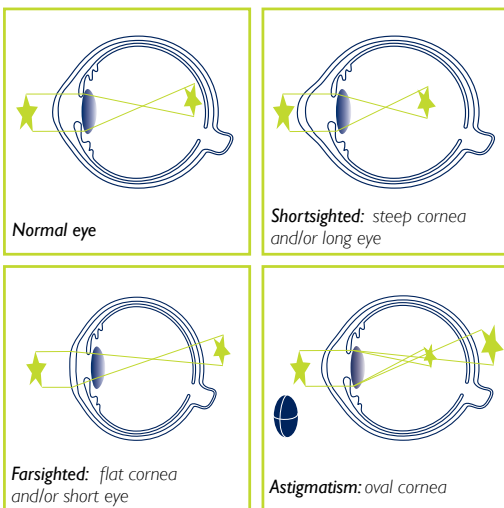
The surgeon creates an ultrathin corneal flap in the front of the cornea using the Intralase laser. Another laser (Bausch & Lomb Zyoptix Z100) is used to reshape the cornea under the flap. The flap is then replaced and adheres without the need for stitches. With the flap in place, the eye recovers quickly and vision is rapidly restored with minimal discomfort.



## Am I a candidate?

Probably YES, if you:-

- Are over 21 years old and have had a stable prescription for 2 years
- Have healthy eyes with no diseases (e.g. cataract)
- Have realistic expectations
- Are within the range of correction
- Are in good general health



### Shortsight

IntraLASIK has been shown to be effective for a wide range of myopia up to  $-12$  diopters in selected cases. The level of treatment is highly dependent on your corneal thickness and pupil size in dim light.

### Farsight

IntraLASIK has also been shown to be effective for farsightedness correcting up to  $+5$  diopters. Treatment beyond this has been performed; whilst effective, it is not as predictable.

### Astigmatism

Levels of astigmatism up to 5 diopters can be treated safely and effectively. At Centre for Sight we have expertise in treating higher levels than this and have developed pioneering methods, which have been used in treating patients who for instance have had corneal transplants with very high astigmatism.

*Before recommending IntraLASIK, a consultant Corneal surgeon will need to perform a thorough ophthalmic examination including a number of tests to ensure that your eyes are healthy and that you are a candidate for treatment.*

## The IntraLASIK Programme

Our IntraLASIK Programme is based on the highest standards of care. We offer our patients a comprehensive service:-

- Personalised and tailored to suit the individual eye using our specially developed nomograms
- All patients are personally evaluated by a consultant **Fellowship trained Corneal surgeon** prior to surgery
- All procedures are performed by a consultant Corneal surgeon
- 24 hour helpline
- Postoperative medications are supplied
- Inclusive aftercare for one year following surgery
- Audited outcomes demonstrate consistently good results with an enhancement rate of 1% for myopia and 3% for hyperopia

# The IntraLASIK Programme

Our facility at the world renowned Queen Victoria Hospital NHS Foundation Trust, East Grinstead, has highly sophisticated equipment and is arguably the most modern Cornea centre in the United Kingdom:-

## **Intralase Femtosecond Laser - UK's First Installation at Centre for Sight**

The Intralase Femtosecond laser has CE approval for use in Europe, and has been approved by the FDA in the USA since 2001 with over 2 million procedures performed to date. The Intralase Femtosecond laser was FIRST made available to patients in the UK by Centre for Sight in August 2004, over 18 months before any other clinic. Use of the laser makes corneal flap creation extremely safe, accurate and predictable, and produces much better results and vision.

## **Bausch & Lomb ZI100 Excimer laser**

Like the Intralase, the Bausch & Lomb ZI100 Excimer is permanently housed within our surgical facility. This is a state of the art scanning laser, that performs a variety of personalised treatment options and has the Advanced Control Eye Tracker (ACE) Iris Recognition and Registration technology! As advisors to Bausch and Lomb we have intimate understanding of this platform and always have the most advanced technology installed.

## **Advanced Control Eye Tracker - Iris recognition and registration**

Iris recognition, similar to that used in security installations, is used to register and track the eye in four directions. This technology ensures absolute precision in laser delivery. It also has the benefit of recognising the eye, eliminating any possibility of treatment errors – a further safety feature. The Advanced Control Eyetracker - yet another UK first for Centre for Sight, is faster than the previous version and able to dynamically follow the eye if it rotates.

## **Orbscan IIz**

This instrument evaluates the cornea in 3 dimensions and assists examination of your eyes at consultation. Images captured using scanned slit beams of light are analysed mathematically to determine suitability for treatment, and assist in calculating your personalised treatment.

## **Pentacam HR**

Although we have the Orbscan IIz we also use the Pentacam which uses a different method of acquiring similar data. The two correlate well, however the Pentacam has some advantages which helps your consultant make decisions with confidence. In addition to 3 dimensional corneal data, the device images the cornea and the anterior chamber, which helps determine suitability for other procedures such as Phakic lenses and also provides data to calculate cataract lens implant power calculations for those who have had previous laser surgery.

## **Zywave Aberrometer**

A state of the art aberrometer acquires wavefront data which is the eye's unique optical profile and is used to customise wavefront treatments.

## **Zyoptix**

Customised wavefront directed treatments tailored to suit the individual eye. A number of Zyoptix treatments are available and are useful in improving visual outcomes further:

**Zyoptix Wavefront** – this treatment eliminates fine aberrations which cause problems with vision particularly pronounced at night. This treatment has the potential to enhance vision in those who have visually destructive aberrations.

**Zyoptix Tissue Saving** - decreases tissue removal by 25 to 30%, increasing safety and permitting higher levels of correction with larger optic zones.

**Zyoptix Aspheric**- a treatment that maintains the cornea's peripheral shape - demonstrated by us to improve contrast and visual quality.



The Intralase laser



Zyoptix Dual Work Station



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*Zyoptix™ is a registered trademark of Bausch & Lomb*

# Your consultation

Our thorough evaluation of your eyes and medical condition will determine your suitability for the procedure.

## Vision evaluation

For best results, we advise you to stop wearing contact lenses for at least two weeks for soft lenses, and four weeks for hard/gas permeable lenses prior to your consultation. We test your vision with and without your glasses. Your degree of nearsightedness or farsightedness is measured using a machine called an autorefractor. Your eyes are then tested to see what level of correction is needed. Contrast sensitivity is also performed.



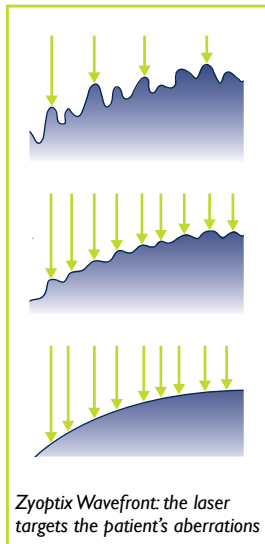
## Cornea measurements

We evaluate the curvature and shape of your cornea using the Orbscan IIz, and the Pentacam Scheimpflug Analyser. These investigations termed corneal topography, are required to ensure that there is no corneal warpage from contact lenses and no hidden corneal conditions. The corneal thickness is also measured using an ultrasound device called a pachometer. The Zywave Aberrometer is used to determine if you have any visually destructive aberrations worthy of customised treatment and also images your iris so that the Advanced Eye Tracker (ACE) can be used on your eye.

## Comprehensive eye examination

Your eye is then examined fully by our consultant. This includes evaluation for dry eye. Your eye pressures are taken and drops are instilled to dilate your pupils. This enables the consultant to fully examine the retina at the back of your eye to ensure there are no problems. Once your assessment is complete and provided that you are found to be suitable, your surgeon will recommend the best option available for you.

# The options



**Our philosophy at Centre for Sight is to perform the best specific treatment available for the individual.**

## IntraLASIK

This is the basic procedure that is applicable for patients with low myopia and with no visually destructive aberrations (i.e. no night vision issues or big pupils) and corneas thick enough to handle the treatment. Outcomes are excellent.

## Zyoptix Tissue Savings IntraLASIK

A more advanced treatment using a more modern software algorithm to remove less tissue (25 to 30% less) and deliver the treatment 70% faster. It is likely to be recommended for patients with thin corneas, a higher prescription or astigmatism. Visual outcomes in our experience are better than regular IntraLASIK.

## Zyoptix Aspheric IntraLASIK

Aspheric treatments are excellent for rapid visual rehabilitation, however not suitable for all.

## Zyoptix Wavefront IntraLASIK

This is a highly customised treatment used to treat fine aberrations specific in each eye. Every eye is unique in its wavefront profile and patients with visually destructive high order aberrations often suffer with poor night vision or difficulty in obtaining perfect vision even with glasses. These issues will be identified at consultation and, if present it is likely that Zyoptix Wavefront IntraLASIK will be recommended. The latest Iris Recognition software, Advanced Contol Eyetracker (ACE), will be used to map the eye for accurate placement of the laser treatment later.

# Your IntraLASIK Procedure

## Before your procedure

We recommend you bring someone with you on the day of surgery and advise you to wear something comfortable as there is no need to change your clothes. You will be given a sedative to help you relax. Potent anaesthetic and antibiotic drops will be placed in your eyes.

## The IntraLASIK procedure

Prior to the procedure to **each eye**, the laser is calibrated and new disposable instruments are prepared.

Topical anaesthetic drops are used to numb your eye and, after the area around the eye is cleaned and prepared, an eyelid holder is used to prevent you blinking.

The **Intralase laser** creates thousands of tiny bubbles to create the flap at a specified depth in the cornea for each eye. Once the surgeon is happy with the quality of the flap a second set of more condensed bubbles are created vertically to form the edge of the flap.

The laser bed is then rotated to the **Bausch & Lomb Z100 Excimer laser**. The flap is then carefully lifted and the laser is used to reshape the inner cornea according to your individual prescription or wavefront. You will be asked to gaze at a flashing red light during the procedure. When the treatment is completed, the flap is replaced and allowed to dry. The flap attaches without the need for stitches and eye drops are administered to prevent infection.

Dark glasses will be provided to prevent you inadvertently rubbing your eyes. You will then sit in the waiting area with your eyes closed. The operated eyes will be examined before you leave the centre to ensure you can see (typically driving standard) and that the flaps are fine.



## Surgery to both eyes

We perform surgery to both eyes on the same day where appropriate. However, at Centre for Sight in the interest of safety and good practice we treat each eye as a separate procedure with new disposable instruments for each eye.

## After the procedure

Instructions for your aftercare will be explained. Please arrange for somebody to take you home as **you will not be able to drive and may feel a little drowsy** from the sedative tablet.

## Your recovery at home

There may be a little discomfort like the sensation of something in your eye for the rest of the day. For rapid visual rehabilitation a nap for at least 4 hours is advised. You **MUST** wear the protective glasses for the first 24 hours and then at bedtime for the next four weeks. This is to prevent you rubbing your eyes during sleep. Drops will be provided and you will need to use them 4 times daily for the first week, and then follow an application regime that will be explained to you and your companion following surgery.

# Your follow-up care

You will be reviewed soon after surgery and periodically thereafter. Your vision will be evaluated and cornea re-measured using similar instruments as before. The duration of these visits are much shorter.

## Repeat surgery

Laser vision correction using the Intralase is substantially more predictable than traditional LASIK. One of many resulting benefits is a considerable drop in the requirement for enhancements or retreatment (less than 1%). In the rare event of regression or if the desired correction is not achieved by your first procedure, then your consultant may recommend an enhancement. This is an easier procedure and involves lifting the flap and carrying out a further laser treatment. The aftercare is identical to the first procedure and there is **no additional charge** for an enhancement for one year following the initial surgery.



## Activities following surgery

It is important to avoid dusty and smoky atmospheres for the first two weeks following the procedure:-

<b>Showering</b>	Next day with eyes closed
<b>Driving</b>	When you are comfortable with your new vision and if it meets the level of the driving standard
<b>Work</b>	Next day if you are comfortable
<b>VDU use</b>	Next day - but be sure to take breaks after 40 mins and make a conscious effort to blink more often
<b>Moderate exercise</b>	1 week
<b>Heavy exercise</b>	2 weeks
<b>Swimming</b>	2 weeks with goggles 4 weeks without goggles
<b>Eye make-up</b>	Mascara 4 weeks; other 2 days (consider eyelash tinting prior to surgery)

# Frequently asked questions

## How successful is IntraLASIK?

Our goal is to reduce your dependency on glasses and contact lenses. Traditional LASIK has a proven track record and is now the most favoured procedure for correcting a wide range of correction. IntraLASIK in the experience of ourselves and others provides better visual outcomes. While our results are extremely good, we realistically make a commitment to get you to a level of 6/12 to 6/10 or better which is the standard required for driving. This level of vision successfully reduces your dependency on optical aids and enables you to watch television and play sports. In reality more than 95% of our patients obtain 6/6 (20/20) vision. Your consultant will discuss what can be achieved in your individual care at the time of your consultation.

## What about the long-term, will my vision change?

The first LASIK procedures were performed in 1989. Further development took place in the early 1990s and over 40 million eyes have had treatment without any long-term negative consequences. The procedure has received approval as a safe option by the stringent Food and Drug Administration (FDA) in the USA. However they advise that consumers should search for a surgeon with expertise in the cornea and research the technology well. The FDA has also approved Intralase for use ([www.fda.gov/cdrh/lasik](http://www.fda.gov/cdrh/lasik)).

Any change that takes place following treatment usually occurs in the first six to twelve weeks. From our experience, having specialist knowledge of corneal diseases and having performed LASIK since 1995, we believe that patients, who are appropriately selected, investigated and treated by an experienced and well-trained corneal surgeon and within the correct guidelines, will not experience any long-term detrimental effect.

## What happens when I get older, will my vision change?

IntraLASIK corrects the eye and makes the refraction normal. If we are in, or when we get to our mid-forties, the fine focusing mechanism of the lens within our eye does not function as well as the lens becomes inelastic. As a result reading glasses or a bifocal segments are needed. Therefore it is quite probable you will need glasses for reading fine print when you reach your mid-forties, even if you were able to read without glasses before surgery. Also in your 6th or 7th decade, cataract formation may alter your vision and change the power of your eye.

## Are there risks in having the procedure?

The chance of having a complication that permanently reduces vision has been documented to be less than 1:10,000. In good surgical hands at a reputable centre, the chances are considerably lower. To our knowledge there have not been any reports of patients going permanently blind from IntraLASIK. Risks of infection, dry eye and night vision disturbance are discussed on the following page.

At Centre for Sight we have strict protocols for the care and maintenance of all equipment. All our surgeons and nurses undergo rigorous training and follow strict protocols and procedures. By adopting such stringent guidelines we have been able to minimise risk and have achieved consistently good outcomes.

## What if I am not suitable?

Depending on the health and status of your eyes, alternatives may be suggested by our surgical team. Options include phakic implants (Artisan/Veriseyes or ICL), PRELEX or Refractive lensectomy. We are a fully fledged eye surgical centre and offer a variety of treatments for both vision correction and other eye conditions.



# Frequently asked questions continued

## Do you have Easy Payment Plans?

Yes we do, including **interest free** options. Please contact our Refractive Administrators for further and the most up to date information.

## Is the procedure covered by Health Insurance?

Most health insurance companies DO NOT cover LASIK surgery.

## What complications can occur with IntraLASIK?

IntraLASIK provides a measure of safety well beyond traditional LASIK and, in good qualified hands, serious flap (and visually significant) complications, just do not occur.

Infection is RARE in all laser eye surgical procedures. Centre for Sight has always treated each eye with separate instrumentation and continue to do so with Intralase to decrease the risk of infection further. IntraLASIK also uses one time use disposable instruments, further improving this level of safety.

### Dry Eye

All laser patients develop some degree of dry eye which improves over time. During the first few months following surgery, those affected will have to use artificial tear preparations frequently. Patients likely to be severely affected are identified at the time of consultation and either treated first for dry eye or declined for surgery. IntraLASIK has been shown to induce less dry eye than bladed LASIK - yet another advantage.

### Overcorrection, Undercorrection and Regression

This is a possibility, however uncommon with IntraLASIK. If it does occur, an enhancement or retreatment may be necessary 3 months after the procedure. To reassure you, this occurs rarely at Centre for Sight and, for shortsightedness, less than 1% of our patients have required an enhancement with IntraLASIK. Should this be required, there is no additional charge.

### Night Vision Disturbances

At Centre for Sight we go through considerable checks to avoid this and our surgeons have measured pupil sizes since first performing LASIK in 1995. We also check for aberrations where indicated and evaluate corneal shape. We suggest the optimal treatment for each patient individually.

All patients will experience some night vision disturbance soon after the procedure which will improve with time, rapidly decreasing after two weeks.

We at **Centre for Sight** are proud of our long track record of safety, achieved through very careful patient selection and appropriate treatment choice to suit the individual. We are proud to be considered a **centre of excellence**, setting standards for the best in laser vision correction. A testament to our expertise is the degree to which international eye surgeons and the ophthalmic industry seek our expert advice. We also provide second opinions to patients and employ a variety of techniques for correction.

## What does the Centre for Sight Laser Vision Correction Programme cover?

We have three fees depending on the type of IntraLASIK correction procedure your surgeon considers suitable for you. Each has a single global fee which does not vary depending on your prescription, and includes the following services:\*

- The laser procedure and initial prescription medications.
- All post-operative care for a period of 12 months, which includes eye examinations and related tests.
- Enhancements up to 12 months following the initial procedure.

## Do eye surgeons have IntraLASIK?

Yes - we have treated numerous doctors and their relatives as well as eye surgeons, including one of our own - Saj Khan. We are proud to be the choice of doctors and other eye surgeons.

\* For detailed information, please see our latest Terms & Conditions, available from Centre for Sight or downloadable at [www.centreforsight.com](http://www.centreforsight.com).



As experts in corneal care, Centre for Sight offers a wide range of procedures that tackle most conditions concerning the cornea or front of the eye. These include:-

**Cataract surgery**

**PRELEX**

**ReSTOR/AcriLISA**

**CrystaLens**

**Corneal transplants**

**Intacs/ Ferrara Rings**

**Implantable Contact Lens (ICL)**

**Artisan/Veriseyes**

**Stem cell transplants**

Call us to book your FREE screening and find out if you are a suitable candidate for IntraLASIK, or to reserve your place at one of our FREE highly informative, monthly seminars.

**London**  
38 Queen Anne Street  
London  
W1G 8HZ

**Head office: East Grinstead**  
The Queen Victoria Hospital NHS Trust Foundation  
Holtye Road  
East Grinstead  
West Sussex RH19 3DZ

enquiries@centreforsight.com  
www.centreforsight.com

Tel: **0800 011 2887**  
Fax: 01342 325 873

