

your guide to a  
**Refractive Lens Exchange**

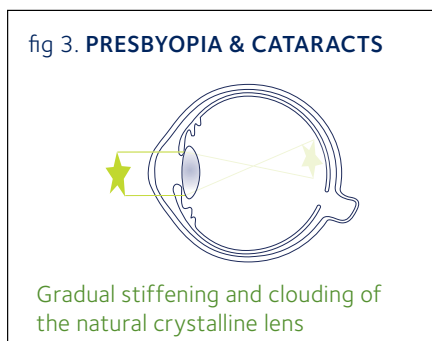
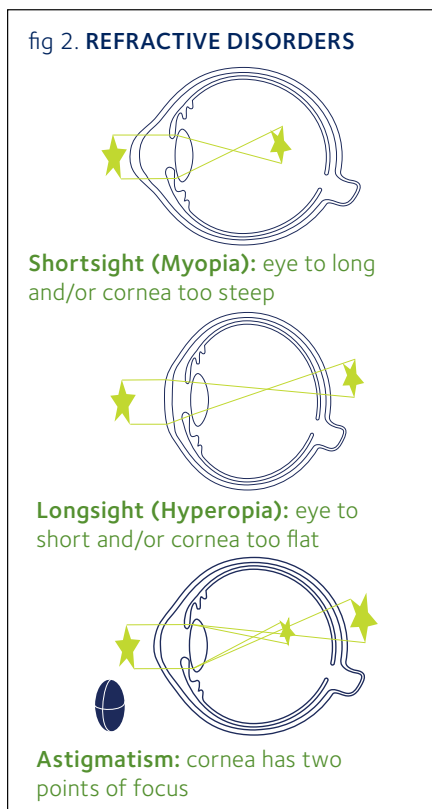
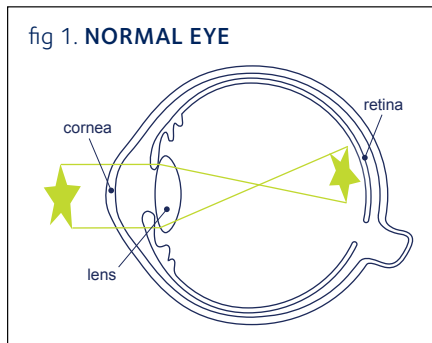
Correction of Presbyopia (loss of near focus)



# Refractive Lens Exchange

Refractive Lens Exchange, also known by other names such as Premium/ Added-Value Cataract Surgery and PRELEX utilises high technology Multifocal and Accommodating Implants in place of the eye's regular lens. The name used varies according to the application being treated and/or the implant used. The procedure however, is virtually identical in all cases. During the procedure the natural lens within the eye is removed and replaced with a carefully calculated focusing implant.

This guide is intended to provide you with more detail regarding these procedures, the benefits, alternatives and risks.



## Basic Anatomy

The lens of the eye is located immediately behind the iris and is responsible for 33% of the eye's focusing power. The cornea is a clear structure at the front of the eye and provides the remaining 67%.

The function of the lens is to provide fine focus, especially up close. The lens changes shape to alter the power of the eye (accommodate) and adjusts focus for near and intermediate objects. At birth it is like jelly, but unfortunately with age it gradually hardens and loses its ability to change shape. Evidence of this hardening normally starts to affect us in our mid-forties when many require reading glasses for close work. This is called **Presbyopia**.

Those requiring glasses or contact lenses most of their life (i.e. before their forties) for shortsight, longsight and/or astigmatism usually have what is called a Refractive disorder. This is where the length of the eye in relation to the shape of the cornea causes the point of focus at the back of the eye to fall short of or beyond the retina. Many with a refractive disorder find that laser eye surgery is a good option. However it can be limited in its ability to treat presbyopia.

With further increase in age, the lens continues to harden and starts to become more compact and cloudy, reducing initially quality of vision (glare and halos at night) and later obstructing vision and interfering with day to day activities. A cloudy or opaque lens is called a **cataract** and unfortunately is inevitable should we live long enough.

## Presbyopia (loss of reading ability)

The aging changes in the lens of the eye mean in time everyone will require reading glasses and even those who escaped optical aids in their early years will eventually need to use "readers".

With advanced lens technology, those over 55 and/or diagnosed with cataracts can now benefit from a **Refractive Lens Exchange** which tackles any or all of the three main reasons for needing glasses or contact lenses: a refractive error, presbyopia and cataracts. The benefit is **improved depth of focus** to decrease dependency on glasses including readers.

Because the eye's natural lens is removed during this procedure, patients undergoing the treatment who have not already been diagnosed with cataracts will not require cataract surgery in the future.

*For more information about cataracts and their symptoms, please read our "Introduction to Cataract Surgery" leaflet.*



# The Lenses

Implants fall into two categories:

## Accommodative Implants

Centre for Sight have extensive experience in the use of Crystalens. This lens works by moving back and forth within the eye as well as arching or flexing. The movement occurs through muscle contraction within the eye and this movement alters the focusing power of the eye. Implantation of the Crystalens as opposed to a conventional lens implant enables recipients to obtain an improvement in distance, middle and in most instances reading vision depending on how well the eye muscles move. To improve near vision further, your Centre for Sight surgeon might consider making your non-dominant eye slightly shortsighted so between the two eyes you will have an increased likelihood of full range of correction. The details of this will be discussed at your consultation at Centre for Sight.

The Crystalens has been extensively studied and is approved by the Food and Drug Administration, USA for replacement of the crystalline lens and for the correction of presbyopia at the time of cataract surgery. The Crystalens implant has been used at Centre for Sight since 2002 and 70% of patients are able to drive and read a newspaper in good light without glasses. A higher percentage (86%) obtain good distance and middle vision.



CrystaLens AO

fig 4. Accommodating lens

## Multifocal/Bifocal Implants

A number of multifocal/bifocal lenses are available at Centre for Sight and they all work on similar principles. The lenses chosen by our surgeons are based on the principle of diffraction or bifocality and as the focal distances are fixed for near and distance, the ability to read as well as see at distance is more of a certainty. Intermediate vision (e.g computers and anything at a full arm's length) while visible may not be completely sharp. Like the Crystalens there is a period of adaptation, which involves the brain rather than muscles within the eye. The brain has to adapt and learn new tricks to maximise use of the new optical system. Additionally like the Crystalens the lenses are much more effective once both eyes have been treated. Night driving is reported as being difficult initially for about 8% of patients but this improves with brain adaptation and can vary in time from a few weeks to a few months.



Acri.LISA



AcrySof® ReSTOR®



Tecnis.Multifocal

fig 5. Some examples of multifocal lenses

### 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, Hazelden Place, Turners Hill Road, East Grinstead, West Sussex RH19 4RH or e-mail: 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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# Your Assessment

## Before Consultation

You will receive a "Your Information" questionnaire before your consultation. This can also be downloaded from the Download section of the Centre for Sight website :

<http://www.centreforsight.com/AboutUs/Downloads/>

It is important that this is filled out thoroughly including medications being taken and any previous eye and medical conditions. If you do wear contact lenses, try and keep them out for at least a few days beforehand.

## Your Consultation

This involves a very thorough evaluation including Topography (assessment of the corneal shape), intraocular lens calculation, tonometry (measurement of pressures), pachometry (measure of corneal thickness) and dilated retinal examination. The whole process can take between one and a half to three hours depending on how easy it is to acquire the tests. Counselling about different options will be provided including viewing of schematic videos. The consultation with the eye surgeon involves a complete eye examination and further questioning and discussion about you and your needs. The eye surgeon will make recommendations and provide you with information about the benefits, alternatives and risks of the procedure proposed. Should you decide to proceed to surgery, a date for this will be provided. If special lenses are required such as Acrilisa torics, then a deposit will be required to place an order for the lens.



# Your Procedure



## Prior to surgery

You will be contacted by Centre for Sight and if special tests and a pre-assessment is required, then this will be arranged. You will be provided with an invoice for the procedure and implants and details relevant to your procedure including time to arrive, and when to avoid food and drink beforehand. It is best to be accompanied by a relative or friend.

## Your procedure

Your procedure and eye to be treated will be confirmed by the nursing team preparing you for surgery. For intraocular procedures, only one eye will be operated at a time. The following eye will be operated a week or two later.

A number of drops including a strong antibiotic, anaesthetic and pupil dilating drops will be instilled in the eye to be operated. A pressure balloon may be placed on the closed eye in preparation. You will be wheeled to the operating theatre where you will undergo the procedure. To help you relax, the anaesthetist may if they feel it is safe, give you intravenous sedation. Your eyes will be cleaned with an iodine antiseptic preparation and a plastic drape will be used to keep the eye in a sterile field. The operation takes about 10 to 15 minutes and all you need to do is keep both eyes open and look straight ahead. At the end of surgery strong antibiotics are injected in the eye and on the outer surface and the eye is then patched.



## After the Procedure

You will spend a short time recovering and be given some refreshments. Medications will be provided in a small vanity bag and you and your relative/friend will be given instructions about their use. You will also be reminded of the time and location of your appointment (usually the next day). You will then be discharged and it is essential that you have someone accompany you home.

It is best to go home to bed and give your eye a good opportunity to recover. Patients who do this recover more quickly.

## Your first Postoperative Appointment

You will be seen by one of the Centre for Sight consultants the next day at one of the centres. Your patch will be removed and vision tested along with some measurements. All being well the date and time for the second eye (if applicable) will be provided.

## Follow-ups

Patients are typically seen again in about 6 weeks for a final check up. This final visit involves a dilated retinal examination and as it will be difficult to see after the consultation, **it is best to arrange for someone to drive you home.**

## Questions and Emergencies

Centre for Sight pride themselves in being available 24 hours a day 7 days a week. In case of any questions or concerns and in the event of an emergency the number to call is **01342 306020 or 0800 011 2887**.



## Activities following surgery

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

- **Showering** – Next day with eyes closed
- **Driving** – When you are comfortable with your new vision and if it meets the level of the driving standard
- **Work** – Next day if you are comfortable
- **Computer use** – Next day, but be sure to take breaks after 40 mins and make a conscious effort to blink more often
- **Exercise** – 4 weeks
- **Swimming** – 4 weeks
- **Eye make-up** – Mascara 2 weeks; all other make-up 2 days (consider eyelash tinting prior to surgery)

# Frequently asked questions

## Is the procedure painful?

No, the procedure is performed under topical or drop anaesthesia. A cannula will be inserted in the hand or arm to allow access to the veins for injecting medications to help allay anxiety. The procedure is not painful and if there is any discomfort, it is best to let the surgeon know as this can be stopped immediately by instilling more anaesthetic on the eye. After surgery there should be no pain or discomfort at all.



## Is the procedure covered by Insurance?

Yes insurance companies do cover procedures where there is a medical need. So cataracts that are visually significant are covered. Refractive lens exchange, although the same procedure is not typically covered as there is no medical need. The added value implant is an additional cost and payment will be collected in advance and at the time of booking. There may also be a shortfall to pay the Centre and this amount will vary depending on your insurance coverage (company and plan). It is best to obtain pre-authorization from your insurance company PRIOR to coming for your consultation as well as surgery. This way you will know for certain what costs will be covered.

## Will I need to have a touch up or enhancement?

The likelihood of any further procedures will be discussed at the time of your consultation with the surgeon. If for example you have a high level of astigmatism which cannot be fully corrected at the time of the procedure, laser vision correction may be needed afterwards and this will be performed at a reduced cost. If there are any unexpected correction outcomes noted straight after surgery and within the 60 day follow-up period, then Centre for Sight will use their discretion and perform the appropriate treatment without an additional charge. To reassure you, this is a rare occurrence. The procedure is very predictable.

## Am I likely to need any further operations?

In about 10% of cases, the membrane that holds the implant in place can become a little cloudy and interfere with visual clarity. This can happen any time but usually occurs late (more than 12 months after surgery). If this does occur and if vision is affected, then a laser might have to be used to make a small opening in the lens membrane or capsule. This is known as a YAG Capsulotomy. This is a procedure that will incur further cost and is covered by health insurance. There will be no cost if the problem occurs soon after surgery and within the first 3 months. Typically for purposes of safety, we at Centre for Sight prefer to wait till after 6 months post-operatively to perform the procedure and our surgeons may advise patients to wait if they develop this problem early.

Centre for Sight, a leader in medical and surgical eye care including laser eye surgery was established in 1996 by a consultant ophthalmic surgeon (corneal and front of the eye specialist) with the view of providing exemplary first class eye care.

Centre for Sight's flagship surgical centre on the outskirts of East Grinstead is a bespoke day surgery hospital designed with the patient in mind. Equipped with the best technology available, the Centre is arguably the most modern private eye care facility in the UK.

A range of services are provided, including laser eye surgery, cataract surgery, refractive lens exchange, implants, glaucoma, corneal and stem cell transplantation and oculoplastic surgery.



## Why choose Centre for Sight?

### expertise

Surgeons at Centre for Sight are fellowship trained specialists who have spent time beyond their minimal training, acquiring special and advanced expertise in a sub-specialty within the eye. Not only are the surgeons up to date but are involved in the education of others regularly lecturing by invitation to major conferences internationally.

### experience

Centre for Sight has established itself as a premier centre for the provision of private eye care. Tens of thousands of procedures have been performed by our surgeons who are also regularly referred complex cases from colleagues nationally and internationally.

### leadership

Centre for Sight is a reference site for many ophthalmic companies. With its reputation for excellence, consultants provide training and advice to the industry, including development of new instrumentation used worldwide for refractive surgery and corneal transplantation. Pioneering methods of treating complex conditions with innovative techniques, have placed Centre for Sight at the forefront of the international eye care arena, with regular coverage in the worldwide media, including the Daily Mail, The Times, BBC, ITV and SKY News.

### quality & excellence

Our mission is to provide the best quality eye care possible by a highly educated clinical team, supported by the best technology available.

### personalised care

All patients are unique and all treatment plans are individually tailored to suit the patient based on a variety of factors including their visual needs, occupation, hobbies and of course their specific eye condition and findings at consultation.

### continuity of care

All consultations both before and after surgery are performed by specialist Consultant Eye Surgeons who are permanent members of the Centre for Sight team. Clinical staff are involved in all phases of care delivery and the same familiar faces are seen at consultation and surgery.



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