# Eyes - Cataract Surgery

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Cataract Surgery

What is a cataract?

A cataract is an opacification or clouding of the lens inside the eye. Note that it is not a growth on the outside of the eye, therefore you can not see it when looking in a mirror.

The cause is not usually known but it is associated with people of older age (over age 50). Sometimes younger people can get cataracts especially if they suffer from diabetes. The treatment is removal by surgery followed by implantation of a new lens.

When should surgery be done?

With modern surgical techniques, smaller cataracts are easier to remove through a smaller cut. Therefore one should not wait for the cataract to become "ripe", as in the old days. The sooner the operation is done the more likely that there will be minimal pain and redness and the better the eye will heal. This is especially true for people who are short or far-sighted. Old, large cataracts can often not be removed through small incisions and the old technique with a large cut plus many sutures may need to be done.

How long does the operation take?

The operation takes about 20 to 30 minutes but the whole procedure including administration and preparation takes several hours. Be prepared to spend several hours (sometimes even 7 or 8 hours) at the hospital (no nights). Bring along a book to read and something to eat (unless you are having a general anaesthetic in which case you may not eat). Someone should drive you home from the hospital. If you are having only one eye done under local anaesthetic then you can drive yourself to and from the hospital if the other eye can see well.

Is it done under general anaesthetic?

It can be done under general or local anaesthetic. In either case a specialist anaethetist will be looking after you for the entire procedure. If you are to have a general anaesthetic, be sure not to eat anything for at least 8 hours before the operation except that if you are taking any prescribed medication then this must be taken with water. Diabetics, however, should not take their insulin or tablets. Clear fluids in moderate quantity (eg a cup of black tea with sugar) may be taken up to 4 hours before surgery. Bring your medications, drops, pumps, etc with you. If you take tablets for high blood pressure, then these must be taken as usual with water on the morning of the operation.

Will it be painful?

The operation itself is painless. When the anaesthetic wears off, mild pain or discomfort may occur for the first few days and you may have a sore throat from the anaesthetic. Sometimes the anaesthetic causes nausea and muscle pain. Severe eye pain after the first day is abnormal and should be reported to your eye-specialist.

When will the sight improve?

Vision will improve when you receive your new spectacles several weeks after the surgery. In most cases your eye

specialist will refer you to your optometrist 2 weeks after the surgery. Your optometrist will then test your eyes for new glasses. If you have retinal problems (at the back of the eye behind the cataract) the vision may not be as good as expected. Retinal problems are common in older patients and may not be diagnosed until after the surgery as the cataract blocks the view of the retina. Remember that no two eyes (and no two operations) are exactly the same and the two eyes may not be exactly equal after cataract surgery even if the operation is done on both.

What are the risks?

Cataract surgery is one of the safest and most successful operations. However, as with any medical treatment, there are risks and possible complications and results can never be

guaranteed. Serious complications are rare, occurring in less than 2% of cases. These are: anaesthetic problems, infection, retinal detachment, haemorrhage, corneal clouding. Less serious complications are: retinal swelling, pressure elevations, lens implant displacement, spectacle intolerance, glare, haloes, light sensitivity, uncomfortable eyes. Membrane formation behind the artificial lens implant is common but easily treated with laser. "Floaters" (dots or threads seen floating around your visual field) are also commonly seen after cataract surgery.

New spectacles may be needed after the operation (even if spectacles have never been worn). Occasionally some of the cataract falls into the back of the eye during surgery. In such cases the eye surgeon will close the eye and send you to a retinal surgeon. Occasionally (especially if the cataract is large and deep) the entire cataract can not be removed. In such a case the remaining part of the cataract must be removed by a different operation from behind the lens. This will need to be done as a separate operation by a retinal surgeon.

Occasionally the lens implant is rejected by the eye. If this happens drops may be needed for many months or the lens may need to be removed. The lens may also need to be exchanged for one of different design or power if it is causing problems.

What to do after the operation.

If you feel comfortable you may do any light activities eg reading, sewing, watching TV. Any spectacles that feel comfortable can be worn. Sunglasses may be worn outdoors. You must return to your surgeon for a check-up in 1 or 2 days. You can drive and return to work after 2 or 3 days but no heavy labour for 3 or 4 weeks.

How much does one cataract operation cost?

The total fee for one eye including VAT, hospital, medications, lens implant, surgeon,

and anaethetist is approximately R14500. This is medical aid rates and is fully covered by most medical aids.

Note that this is for routine surgery with no complications. This does not cover further costs (such as additional surgery) that may be incurred in the unlikely event that complications arise. These extra costs will also be covered by medical aid. If you are not on a medical aid, arrangements can be made for these extra operations to be done at a state hospital at no charge.

Please note that some medical aids do not cover the entire bill in which case you will have to pay in the difference. For example, some schemes do not cover the cost of the lens implant (approx R1400), some refuse to pay for the medication (approx R600), and some refuse to cover the viscoelastic material used during the operation (approx R1 600).

If you are not on a medical aid and can not afford the surgery then discuss this with your eye specialist (or with one of his staff members) as there are various schemes available for indigent patients.

Clive Novis

Who looks after your eyes

As usual if you have any problem with your health, including your eyes, you should see your GP first. But many people by-pass the GP when it comes to their eyes and go straight to their eye-care practitioner. There are two main types of eye-care practitioners and three other types:

- Optometrists are trained in prescribing glasses and contact lenses. They also sometimes give eye exercises and vision training for squints, learning disorders, eyestrain, and other visual problems. They are not doctors but are trained in detection of eye diseases. There are many optometry outlets such as SpecSavers, Torga Optical, Stanley and DeKok, ClearVision, and hundreds of solo optometrists or small partnerships. The optometrist is usually the first eye-care practitioner seen by most people with eye or vision problems. Some optometrists have specialized in fields such as complicated contact-lens fitting, paediatric optometry, sports vision, and visual aids for the partially sighted. Optician is the old name for optometrist.

- Ophthalmologists are medical doctors who have specialized in eye diseases and surgery. Other names for ophthalmologists are ophthalmic surgeons and eye specialists. Unfortunately there are not nearly enough ophthalmologists to meet the needs of the whole of South Africa but ideally you should see an ophthalmologist if you have an eye disease or a medical problem with your eyes. For example, if your one eye becomes red and painful or if you suddenly lose vision then it is unlikely that an optometrists will be able to help you and you should go straight to an ophthalmologist.. Most ophthalmologists will see any kind of eye or vision problem, but some have sub-specialized in areas such as retinal diseases, cataract surgery, refractive surgery (laser to get rid of glasses), glaucoma treatment, squint treatment, eye-lid surgery, etc.

- Orthoptists are ladies (I know of no male orthoptists in SA) who have trained to help ophthalmologists with children with squints. They also often see adults with squints, they measure the angle of the squint, they prescribe exercise for squints and "lazy" eyes, and sometimes do other tasks that help the ophthalmologists. They may also do school vision screening and often give eye exercises for children with reading difficulties or learning problems if these are related to eye-movement problems.

- Ocularists are trained in the fitting of ocular prostheses ("glass eyes") to people who have lost an eye. They also fit cosmetic shells over eyes that have shrivelled away after serious disease or injury.

- Optical dispensers and technicians are those people who make up the glasses after the optometrist or ophthalmologist has prescribed them.

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Excimer Laser Treatment

For adults who want to reduce dependency on glasses or contact lenses.

What is excimer laser treatment?

The excimer laser is an instrument that can reshape the cornea (front surface) of the eye with extremely fine precision. This can correct certain optical problems such as myopia (shortsight) and astigmatism with greater accuracy than the old radial keratotomy procedure which involved making cuts into the eye.

Can anyone have this treatment?

No. Your eye specialist will tell you if it is possible to perform the treatment on your particular eyes. Children under 18 are usually excluded from this treatment. There is no upper age limit and people as old as 85 have had this therapy.

What is involved in the procedure?

The procedure is begun by first making a thin flap of tissue on the cornea. This flap (which looks like a small soft contact lens) is then lifted up and the laser is applied to the tissue bed below. The flap is then replaced over the treated area of cornea. The correct name for this procedure is Laser In-situ Keratomileusis but this is abbreviated to LASIK.

LASIK is the most modern, state-of-the-art technique available in the world today.

Occasionally it is not technically possible to make the flap. In such cases the laser is applied directly to the cornea and the name of this procedure is PRK. PRK is usually as good as LASIK in the long term but healing is slower and more painful.

What are the risks and complications?

Excimer laser treatment has proven to be a safe and reliable procedure. Millions of people all over the world have had their eyes corrected by this laser. However, as with any surgical procedure there are risks and possible complications and results can never be guaranteed even by the best surgeons. There is approximately a 1% risk for serious complications. The most common serious complications with LASIK are flap problems. If the flap is not cut perfectly smoothly or if the flap tears or tatters, then the procedure usually has to be cancelled and the procedure may be repeated later. Occasionally a flap problem can lead to irregularities that only a hard contact lens can correct. Another common serious complication with PRK or lasik is scarring of the cornea. Scar formation can sometimes be removed by a different type of laser procedure or the scars may reduce spontaneously over time (months or even years) but occasionally they are permanent.

Another serious complication is irregular astigmatism. This is when the surface of the cornea is no longer smooth and regular. A hard contact lens can correct this problem.

Total blindness is an extremely rare complication but has been reported overseas from severe infection after the operation. You must carefully consider these risks before deciding on laser surgery.

What are the side-effects?

Minor temporary side effects include pain and discomfort for a few days after the surgery.

Your vision will be blurred for a few days or even a few weeks and it may fluctuate. Some people complain of glare, light-sensitivity, haloes around lights, double vision or ghost images. These are usually temporary and disappear after a few months but occasionally these symptoms may be permanent. If they are permanent, a hard contact lens may need to be worn permanently to eliminate them.

Will I never have to wear glasses again?

This can never be guaranteed and depends on your particular eye condition. Most (not all) people under the age of 40 do not have to wear glasses at all after the operation. Most people over 40 will need the usual reading glasses for "old-sight" after the operation. Many people (of all ages) need weak driving glasses (especially for night driving) or weak glasses for TV, reading, computer work, etc after the operation.

In the unlikely event that permanent glasses are still needed after the operation then a second enhancement operation may be considered (but this has higher risks) or contact lenses can be worn. No two operations are exactly the same and so the two eyes will never be exactly equal afterwards. This imbalance between the two eyes is usually not a long-term

problem but occasionally glasses are needed to balance the eyes. All patients are advised to see an optometrist a month after the laser to see if glasses are needed.

Is the operation painful and how long does it take?

The operation is not painful and is done under local anaesthetic drops (no injections) and so you can eat or drink as you wish before the surgery. You may feel a pressure or stretching sensation as your eyelids are held open by a metal speculum. This prevents you from blinking during the procedure. The procedure will go faster and better if you are relaxed and cooperative.

The operation only takes 5 minutes but be prepared to spend 2 to 4 hours at the hospital. You will need someone to drive you home afterwards. Most people are back at work the next day but your doctor will book you off for a few days if you ask him.

Contact lens wearers, note that soft contact lenses should be removed at least 3 days before the operation. Hard contact lenses must be removed 3 weeks before. Contact lenses can be worn after the laser treatment but this is very rarely necessary

How much does it cost?

Approximately R12 000 to R17 000 depending on various factors. Most medical ais do not cover this procedure.

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Eyestrain

Eyestrain is a rather loose term covering sore, tired, burning, uncomfortable, or red eyes usually after computer work, reading, or some other activity requiring much eye work. It may be associated with headaches, general fatigue, and irritability.

It is extremely common because of the unusual work load that our eyes are expected to do. Our eyes have not changed much in evolutionary terms over the last few hundred years. But the work expected of them has changed and increased. Most of our eyes were designed for far vision (unless you are short-sighted) and for looking at large objects such as other people and animals. Then came reading a few hundred years ago and now its driving, computers, TV, etc. So it's no wonder we get eyestrain.

Some people can read or do computer work all day with no problem. These are often the myopic (short-sighted) people. So if you have to wear glasses to see far don't think you have weak eyes. Rather think that you have strong eyes for near work. Because near work is so important in today's world the short-sighted children often do best at school and university ("Bennie Boekwurm"). Some people's eyes work just fine at all distances. These are the lucky ones just like Bruce Fordyce is lucky to have legs that can run on and on without fatigue.

Here are some tips to help reduce eyestrain:

- Move your eyes around often. The eyes were designed to look around the visual field not stare in one direction only.

- Look far away often. Most eyes are more comfortable at far than at near.

- Get up or move around often. If your whole body is still the brain gets the message that it's time to rest and your eyes have to work alone.

- Take a 5 minute break every hour or two.

- Moisturize your eyes frequently using artificial tears eye-drops. Your eyes are moving around like ball-bearings and need lubrication too. There are many types of eye-lubricants on the pharmacy shelves and you must experiment to find the one that suites you best. Burning eyes is often a sign of dry eyes which is also extremely common.

- Apply a cold compress to your eyes. Cold tea bags and sliced cucumber have been used but anything cold will do such as a rag dipped in cold water. I leave two teaspoons in my freezer for this purpose.

- Rub your eyes. A gentle massage is good for the eyes. It gets the blood flowing and the natural oils out of the glands.

- Cover that part of the page that you are not reading. Some people find that if they cover the book with a blank paper that has a rectangular hole cut in it (to see only the sentence that you are busy reading) that they can read better for longer.

- Use your finger to point while reading. Moving your finger rapidly along just ahead of where your eyes are pointed helps some people to read better and faster.

- Use lighting that is comfortable for you. Not too bright and not too dim. Make sure the whole room is lit up and not just the page you are reading or the computer screen. Some people get a lot of eyestrain from fluorescent lights.

- Set your computer display to those settings that are most comfortable for you. Besides brightness, colour and contrast, don't forget to set the screen resolution to that which you are comfortable with.

- See your optometrist because even if you can see well you might need reading or computer glasses to improve efficiency and comfort.

Do not take stimulants such as caffeine to relieve tired eyes. It may help in the short term but can lead to long term problems.

Do not make frequent daily use of eye-drops that you can buy at the supermarket. These drops are good for making red eyes appear white for a few hours and for getting rid of minor irritations. They are quite safe if used less than about three or four times per week.

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Macular degeneration

Macular degeneration is when the central part of the retina at the back of your eye (the film of the camera) starts to degenerate. The usual cause is wear and tear (ie old age). Your central vision therefore starts to get slowly worse. Your peripheral (side) vision remains intact so you do not go blind from macular degeneration.

There are two types of macular degeneration:

- Dry type which is by far the most common.

- The more serious wet type where blood vessels leak fluid into and behind your retina. All people who have wet macular degeneration also have dry macular degeneration but the reverse is not true. Most of the modern medical breakthroughs that you hear about for treatment of macular degeneration are for the wet type.

It is most important that people with macula degeneration eat a well balanced diet, stop smoking, and do moderate exercise appropriate for their age. Recent studies have shown that certain supplements can slow down the progression of macular degeneration. The supplements should include a general multivitamin and mineral formula plus a special eye formula containing antioxidants and two substances called lutein and zeaxanthin. In addition omega 3 fish oil capsules should be taken. All of these supplements benefit the whole body in addition to the eyes and macular degeneration.

Other tips for people with macula degeneration include:

- Use large print books or use a magnifier.

- Decrease the computer screen resolution (which increases the print size).

- Increase your lighting. Bringing an ordinary reading lamp closer to the book increases the illumination.

- Contact the Retinal Preservation (RP) Foundation which is a support group for people with retinal diseases (tel 011 622 4904)

- Make sure your glasses are checked regularly by your optometrist. Some optometrists specialize in supplying visual aids to the partially sighted. There may be a university clinic or state institution in your area that has a "low vision clinic" like the one at the optometry department at the University of Johannesburg.

- See your ophthalmologist regularly too as other diseases could also develop especially cataracts and leaking retinal blood vessels.

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