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## ***YOUR JOURNEY THROUGH CATARACT SURGERY***

If you have been diagnosed to have cataracts and you have decided to have treatment under the care of Mr K. Manuchehri, here is some information about us, what to do before your appointment and what happens during and after cataract surgery.

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## 1. THE TEAM

Firstly, let us introduce you to Mr Manuchehri's "team", who will help you through your journey:

### At the office:

We are a team of two Personal Assistants of Mr Manuchehri:

*Luisa and Celina*

We arrange all the administrative parts of your journey, including booking appointments and your operation at the appropriate hospitals. We work from an office independent of the hospitals in which your cataract surgery may be taking place. We are the contact point for Mr Manuchehri, therefore, if you have any questions about any part of your journey, please contact us, on 01844-208432 between 9:30am to 3:00pm pm Monday to Friday. However, in case of emergencies we can be contacted out of hours on 07835 977069. You may need to leave a message on an answering machine, we will get back to you as soon as we can, usually within a few hours.

## 2. CATARACTS - A QUICK INTRODUCTION

The eye is made like a camera. It has a natural lens to focus the light onto the retina (the "photographic film" at the back of the eye). When the natural lens becomes cloudy, it is called a cataract. The operation involves removing the natural lens and replacing it with a specially manufactured lens called "intra-ocular lens implant" that is made of a special type of plastic. Twenty years ago, patients had to wait until such time as the cataract was "ripe" before we performed cataract surgery. However, nowadays the operation has been so fine-tuned that most people would notice an improvement in vision after surgery, even if there is minimal cataract present. The more significant the cataract, the more you will notice an improvement in vision after cataract surgery. Some patients wish to undergo "clear lens extraction" in order to reduce their dependence on glasses. This is the same operation as cataract surgery, except that the natural lens has not developed any opacities that affects the vision, and therefore strictly speaking it has not become a "cataract" yet.

## 3. CONSULTATION PRIOR TO CATARACT SURGERY

1. Call the office on 01844 208432 or 07835 977069 to book an appointment for consultation. Mr Manuchehri's clinics are currently held at the Spire Thames Valley, Spire Harpenden Hospital and Spire Dunedin Hospitals.

2. If you have a referral letter from your GP or optician, please bring it along to your consultation.
3. Please bring the numbers for your latest glasses' prescription with you. If you have the numbers for any older glasses' prescriptions, please bring those with you as well.
4. Please bring your latest glasses for distance and close work with you.
5. Please bring a list of the medications that you are on.
6. Every time you see Mr Manuchehri, he will dilate your pupils to check the structures behind the Iris (the coloured part of the eye which surrounds the pupil), which means that it will be difficult (but not impossible) for you to drive for some hours after the consultation, as the vision will be blurred (the exact time varies from individual to individual but usually lasts between 2-6 hours after the consultation and goes back to complete normality after 24 hours. Therefore, you are likely to always need to be driven back home after the consultation.
7. When you book your appointment, please let us know if you are a contact lenses wearer and whether you wear gas-permeable contact lenses or soft contact lenses. You will need to remove gas-permeable "hard" contact lenses, three weeks before your appointment as they can affect the biometry measurement readings. For soft contact lenses, please stop using them at least 3 days before your consultation.
8. If you are not insured for your treatment, please let us know at the time of booking your consultation, so we can inform you of the fees involved for the initial consultation, the tests, the biometry measurements, the operation and the post-operative consultations in advance.
9. Please allow approximately 1-2 hours at the hospital for your first visit. As well as taking a full medical history, Mr Manuchehri will perform a full ocular examination including dilation of the pupils (which takes 20 minutes after insertion of the drops) and full examination of the back of the eye. If the diagnosis of cataract is confirmed, he will take your biometry measurements himself at the same visit, after which he will talk to you about the choices of intra-ocular lens implants available (**see more information on next section**).
10. We have attached written information about the risks associated with the surgery. Please read these carefully. There will be time for you to ask any questions during the consultation, but don't worry if you forget, you can always call the office and we will be happy to assist you in answering any remaining questions that you may have forgotten to ask during the consultation.

11. If you are having a clear lens extraction to reduce dependence on glasses the same information as above will apply.
12. In order to make sure that you do not have any concurrent sub-clinical disorder of the macula that can affect your vision after cataract surgery, Mr Manuchehri likes to see a copy of your most recent macular **OCT scans before the surgery**. If you have not had this scan done previously at your optician, we can arrange for this to take place before the operation. Please let us know so we can help guide you as to where this scan can be performed.
13. If you are going to see Mr Manuchehri at the Spire Harpenden, or Spire Dunedin Hospital, the OCT scan can be performed by Mr Manuchehri during your consultation as the equipment is available at this hospital. The hospital charges for this scan separately if you are self-paying. If you are insured, your insurance normally covers the cost of this scan performed at the hospital.
14. Once you have seen Mr Manuchehri and you are happy to go ahead with the surgery, please call the office to book an appointment for the operation.
15. Please start performing **lid hygiene** as soon as you book your first appointment and continue this to the date of your surgery and re-start lid hygiene again 2 days after your operation (please stop the lid hygiene on the first post-operative day as you should not put any pressure on the eye for a couple of days – until the wound has had a chance to heal). Performing lid hygiene will improve the accuracy of the biometry measurements, help reduce pain and discomfort after the operation and improve vision further by clearing your tear-film.

Here is how to do lid hygiene:

- 15.1 Soak a cotton wool pad in hot water from the tap at 45°-50° C
- 15.2 Place it gently over your closed eye lid and hold with minimum pressure for at least two minutes
- 15.3 Remove the pad by wiping it gently away in a downwards motion, thus cleaning your eyelashes on removal.
- 15.4 Repeat this process at least 4 times a day evenly spaced throughout the day.

## 4. OPTIONS OF INTRA-OCULAR LENS (IOL) IMPLANTS

These days there are many types of different Intra-Ocular Lens (IOL's) implants available, each with its own advantages and disadvantages.

These can be broadly categorised into:

1. Standard IOL's : These are by far the commonest type of implant used world-wide and in the UK. The biggest disadvantage of these implants is that they only have one focus and therefore patients who have this kind of implant may need to wear glasses to see objects at other focal lengths clearly.
2. Premium IOL's: These are sub-categorised into 3 further types:
  - a. Toric monofocal IOL's
  - b. Multifocal IOL's
  - c. Toric multifocal IOL's
  - a) Toric monofocal IOL's: If your eyeball shape is like that of a rugby ball rather than a football, then you need a rugby ball shaped implant in order to reduce complete dependence on glasses to see well. If your biometry measurements show more than 1.5-2.0 Dioptre of corneal astigmatism, it is probably in your interest to have a toric rather than a standard implant.
  - b) Multifocal IOL's: These implants attempt to reduce spectacle dependence post operatively. As with everything else in life there is a trade-off between the advantages and disadvantages of this sort of implant. Some of the disadvantages of multifocal IOLs include:
    - i. Increased cost
    - ii. Increased patient experience of glare and halo's post-operatively especially in low-light conditions such as driving at night
    - iii. Decreased contrast sensitivity compared to standard IOL's, this means that black letters may appear more grey than black
    - iv. Increased chance of positive dysphotopsia, where patients describe seeing "lights" or visual effects, particularly in low light conditions. Most of these usually settle, or improve with the passage of time.
    - v. Increased risk of negative dysphotopsia, where patients describe having a "black ring" around the peripheral vision of the operated eye. Most of these usually settle, or improve with the passage of time.
    - vi. No guarantee of being spectacle free after insertion of multifocal implant
    - vii. Ghosting or doubling of the images happening to very few patients post-operatively – again most of these settle over time.
    - viii. Changes in the shape of the eye leading to need some sort of spectacles with the passage of time, even when originally patients were completely spectacle free
    - ix. Becoming more aware of "floaters" after insertion of multifocal implants

- x. Some models of multifocal lenses focus on intermediate vision and distance, requiring reading glasses for closely held reading material, while others focus on close near vision, requiring glasses for intermediate vision.
  - xi. For these implants to work well, it is important to make sure that there are no other ocular pathologies present – in particular eye surface disease or macular pathology. This is why we always advise patients to have a macular OCT scan prior to cataract surgery, in particular if they are having premium IOL's inserted, in order to pick up any sub-clinical macular pathology. Although having these co-morbidities reduce the patient satisfaction with multifocal IOL's after cataract surgery, they are not a contra-indication to having multifocal IOL's inserted during cataract surgery.
  - xii. Toric multifocal IOL's: If there is more than 1.0-1.5 Dioptre of corneal astigmatism and you wish to have multifocal IOL's inserted, it is most important to neutralise the corneal astigmatism first otherwise you will still be completely spectacle dependent after multifocal IOL insertion. This is why there are toric multifocal IOL's as without neutralising the corneal astigmatism first, the multifocal IOL cannot cast a focused shadow on the retina at any focus.
- c) Toric multifocal implants, are used in ruby-ball shaped eyes that wish to be relatively glasses free for distance, intermediate and near vision. It is a combination of (a) and (b).

### IOL material:

Historically there were many types of materials used to produce IOL's including PMMA, Silicone, and acrylics. Today most of the implants used worldwide are acrylic implants, as they are foldable and go through smaller incisions. These acrylic implants are generally subdivided into two types: Hydrophobic and hydrophilic acrylic material. Over the years some types of implant material that were manufactured with the hydrophilic acrylic material were found to have calcified while in the eye and had to be removed. None of the material made from the hydrophobic acrylic material have ever calcified.

## 5. WHAT HAPPENS ON THE DAY WHEN YOU ARRIVE AT THE HOSPITAL FOR YOUR CATARACT SURGERY?

You will be welcomed and shown to your room by the hospital reception. The nurse allocated to you will admit you by asking questions and checking some of your vital signs and preparing you for surgery. This can take up to two hours.

Sometime before the operation eye drops will be given to enlarge your pupil, causing blurring of the vision in that eye

Mr Manuchehri will come along to your room to mark the eye which is having the cataract operation, about 30-40 minutes before the operation. He will check with you again the type of intra-ocular lens implant that you wish to have inserted at the time of the operation, the type of anaesthetic that you will be having and will go through the risks and benefits of the operation again if you wish, before getting you to sign your consent form giving us permission to carry out your cataract surgery.

He will also usually write you up for some minor anxiolytic (Diazepam or Valium) to help you relax before the surgery.

### THE OPERATING THEATRE:

You are then taken into the anaesthetic room of the operating. Drops to numb the eye are given both before going to theatre and on arrival in the anaesthetic room. This is followed by some special drops to sterilise your eye before the operation. In some cases, a needle is placed in the back of your hand before the anaesthetic is given, so that drugs can be given by this route if necessary.

### Anaesthetic For Cataract Surgery:

99.5% of patients have cataract surgery with topical anaesthetic (drops only), during which they will be wide awake but will feel only minor pain or discomfort in the eye during the surgery. Some parts of the operation will be more painful / uncomfortable than other parts, such as when Mr Manuchehri inserts the probe to remove the cataract into the eye, which stretches the eye and causes some discomfort. This usually is not long-lasting, and most patients feel that this pain is tolerable.

A minority of cataract operations are carried out under a general anaesthetic (anaesthetic to knock you out completely for the duration of the operation). If this is the case, you will be completely unconscious, as if you were sleeping deeply throughout the surgery. In these cases, an anaesthetist will be seeing you before the operation and will be there for the duration of the operation administering the anaesthetic that keeps you asleep.

### BEFORE THE OPERATION BEGINS:

The theatre staff move you to the operating table where they ask you to lie on your back and make you comfortable by placing pillows under your knees to ease the tension on your back. Mr Manuchehri will put additional anaesthetic drops as well as sterilizing drops on your eye. He will then clean around the eye with an antiseptic that is yellow/brown in colour and put a sterile drape over your eye, that covers your other eye and face. Oxygen is blown under this drape so that you can breathe normally during the course of the entire operation. We also monitor your heart rate and oxygen saturation during the operation, continuously. If you feel more comfortable holding one of the theatre staff's hands during the operation, please ask for this at the time.

The drape over the eye is then cut with scissors to provide a small opening for access to your eye. Mr Manuchehri then uses a speculum to keep the eyelids open so that he can

perform the surgery. But please be aware, if you squeeze your lids closed then this can interfere with the surgery. The best thing to do is to relax and enjoy the music of the radio in theatre and listen to the chit-chat of the nurses....!

### DURING THE CATARACT SURGERY:

Mr Manuchehri carries out the surgery with the aid of a microscope, which has a bright light coming over your eye. The operation will take approximately 20 minutes from start to finish, but under the drapes this may feel a lot longer. There will be occasions when there is discomfort during the operation, but these are normally of very short duration. If you do feel any increased amount of pain, please do let Mr Manuchehri know by squeezing the hand of the nurse who is holding your hand.

The opening into the eye to perform cataract surgery is so small that stitches are not usually necessary – if needed they cannot be seen or felt afterwards and are easily removed later in the out-patient clinic. You will be in the operating room for about 40 minutes, although the operation itself usually takes 15-20 minutes, although it can last longer especially for denser cataracts. The cloudy lens (cataract) is removed and replaced with a clear plastic lens, which remains in your eye permanently and helps you focus. The cataract is removed by a technique called phacoemulsification, in which the lens is broken up with ultrasound waves and removed through a fine tube.

## 6. AFTER SURGERY

Here are some general post-operative instructions following cataract surgery:

### Immediately after the operation:

1. Close your eyelid for an hour or so immediately after the operation as this pads the small corneal wound through which the cataract was removed and prevents little leakages and allows healing to start faster.
2. When you get to the ward you will be given two tablets of Acetazolamide (500mg) to make sure that the intra-ocular pressure does not go too high after the operation. (this is called post-operative spiking of intra-ocular pressure and happens to about 5% of cases after cataract surgery. The symptoms of very high intra-ocular pressure are severe headache around the eye that is not relieved by paracetamol and feeling of nausea and vomiting). If any you have any of these symptoms on the first few days after the operation, please contact us on the above numbers given.

### Before you leave the hospital:

1. Make sure that you have your post-operative drops: **MAXITROL to be used four times a day until your visit at around 2 weeks, when Mr Manuchehri normally tapers your drops slowly to three times a day for a week, twice a day for a week and then once a day for a week, before stopping the drops completely.**

2. Make sure that you have extra micro-pore tape for sticking the plastic “eye shield” which is stuck to your eye socket after the operation to protect it from pressure on the eye. You can remove this on the morning following your surgery and wear sunglasses to protect your eyes especially from inadvertent rubbing of the eyes by your hands. You should wear your protective “eye shield” at night before going to sleep for at least a week after the operation.

### When you get home:

1. Take some paracetamol for pain relief if the eye is sore.
2. Take it easy. You have had what is classed as a major operation on your eye and although everything has gone well so far, it is going to take a little time for the eye to stabilise and settle down.
3. You will have had your cataract surgery with either Topical Anaesthetic (drop anaesthetic only and awake) or a General Anaesthetic (in which case you would have been fully asleep during the operation). Your eye maybe covered with only a plastic “eye shield” or it may occasionally have a dressing as well as an “eye shield” over your eye, in which case your eye lid may try to open underneath the dressing. If this happens it can be uncomfortable. Therefore, if you have an eye-pad as well as a plastic “eye shield”, it is important to try to keep the eyelid closed underneath the pad and plastic eye shield if possible, as this makes the eye most comfortable. If you only have a shield there is no problem with opening and closing your eyes naturally. Other surgeons use a needle (sub-tenon or peri-bulbar) anaesthetic which paralyses the eyelid muscles and keeps the lid closed over the operated eye. You have not had this type of anaesthetic. Therefore, the eyelid will try to open involuntarily underneath the eye pad if you have one.
4. You can be up and about, watch television or read after your operation, but just take things gently, especially in the first few days after the surgery.
5. Leave your “eye shield” and / or dressing on overnight. The eye may feel gritty or begin to ache a little but usually it will not be very painful. Take Paracetamol for pain relief if needed.

### The morning after the operation:

1. Take off the shield and dressing (if you have had a dressing) yourself first thing in the morning. Separate the plastic eye shield from the rest of the dressing (if you have another dressing). KEEP THE EYE SHIELD, but throw away the rest of the dressing, if there was one on your eye.
2. Wash your face GENTLY with soap and water, dabbing the eye and eyelids dry GENTLY with a clean towel. The lashes may be stuck together by dried mucous.

The lids should be prised apart without undue pressure on the eyeball. The eye may be red and there may be some bruising and puffiness around the eyelids but these will all resolve over the next couple of weeks as the eye settles down from the operation.

3. Put the first drop of MAXITROL in the eye, by pulling away the lower lid and inserting a single drop in the conjunctival sac. Please make sure you remove the plastic collar on opening the Maxitrol for the first time to avoid it falling on your eye when the bottle is inverted.
4. Use sunglasses, or your old glasses to protect the operated eye during the day. If you use your old glasses, the prescription for the operated eye will be completely wrong – so do not expect to see clearly out of that eye.
5. Because of COVID-19 pandemic, hospitals are not keen for us to see you unless absolutely essential, so we have moved away from seeing you on the first post-operative day. Mr Manuchehri will give you a courtesy phone call to see how you are on the first day after your operation.

## 7 POST-OPERATIVE CARE

### 7.1. DROPS:

A drop of **MAXITROL** needs to be instilled **four times a day** into your operated eye. You will need to **continue with these drops until your next outpatient clinic appointment.** They need to be spaced out over the waking day (e.g. first thing in the morning, lunch-time, tea-time and bedtime). It is essential that you use these drops regularly. Your GP will have been informed about these drops so if you should lose them or if it looks as though you are running low please contact your GP surgery who will be able to organise a repeat prescription for you. Do not let yourself run out. **DO NOT STOP THESE DROPS UNTIL YOU HAVE BEEN SEEN IN CLINIC.** It would be helpful if you could remember to bring your drops with you when you attend clinic for your post-operative appointment.

### 7.2. PLASTIC EYE SHIELD:

Wear the plastic eye shield over your operated eye just before you go to bed and take it off on waking up for **one week**. Secure it to the skin around the eye with micro-pore tape that you were provided with at the hospital.

### 7.3. SUNGLASSES TO PROTECT THE EYE FROM INADVERTANT RUBBING

Please wear normal sunglasses or your old prescription glasses all the time from the time you wake up to the time that you go to bed) to stop you inadvertently rubbing the operated eye, especially in the first few days after the operation.

#### 7.4. PERFORM LID HYGIENE

On the second post-operative day you should go back to using lid hygiene four times a day on the operated eye as this will make the eye much more comfortable and improve your vision. Again, this is what you need to do:

- a) Soak a cotton wool pad in hot water from the tap at 45-50° C.
- b) Place it gently over your closed eye lid and hold with **minimum** pressure for at least two minutes.
- c) Remove the pad by wiping it gently away in a downwards motion, thus cleaning your eyelashes on removal.
- d) Repeat this process at least **4 times a day** evenly spaced throughout the day.

#### 7.5. GLASSES

The prescription glasses you currently have will be “wrong” for the “new” eye. You will need to see your own optician and organise a new prescription and glasses usually six weeks after the date of the surgery.

Until then, you may either use your old glasses or dispense with them, whichever you find more comfortable. You may find that the vision in your unoperated eye is better with your old glasses but your “new” eye is better without, in which case you could ask your optician to simply push the lens out of the “new” side as a temporary measure and leave it like that or to put in plain glass instead until you are tested for your new prescription in due course. If there is a great difference in the prescription between the operated eye and non-operated eye, you will feel lop-sided, whatever you do, until the other eye is matched up.

You will not damage your eye by using your old glasses nor by not using them. If you wish to wear sunglasses or prescription sunglasses because you find the light bright and dazzling, please feel free to do so.

#### 7.6. DO'S AND DON'TS

- Don't**.....
- Rub the operated eye for at least 2 weeks
  - Bend down if you can avoid it
  - Lift heavy weights
  - Swim for one month
  - Play contact sports/golf/tennis for at least two weeks
  - Wear makeup for two weeks

Make any dental treatment appointments for two weeks before and after the surgery  
Drive if you feel unsafe to do so or if you cannot read a number plate a 20meters with both eyes open  
Don't get new glasses until Mr Manuchehri advises you

**Do.....** Do lid hygiene four times a day 48 hours after the operation  
Wash your hair  
Wash your face  
Have a bath  
Have a shower  
Be up and about  
Use your eyes as much as you like (reading, watching television, using a computer)

**Beware of .....** Pouring kettles and teapots  
Going downstairs and stepping on and off kerbs  
Straining, either due to constipation or coughing  
Young children with flinging arms,  
Bouncing pets,  
Branches flicking back into your face/eye

Remember that you have just undergone a major operation on your eye. The eye has a small wound which usually self-seals and has no stitch to hold it together. If you rub your eye too hard or knock it accidentally you may dislodge the wound and that could cause the eye to leak and could be a disaster! Just be gentle with the eye. When you wash your face, dab it gently rather than pummel the eyes dry.

### **7.7. DRIVING:**

**You are legal to drive a car if you can read a car number plate at 20.5 meters with both eyes open with any correcting aid such as glasses or contact lenses, and as long as you do not have any gross visual field defects. If you meet these criteria, then you meet the legal requirements to drive in the UK.**

**HOWEVER, YOU SHOULD NOT DRIVE IF YOU DON'T FEEL SAFE TO DO SO.**

Often immediately after cataract surgery, your brain can be confused if the refraction of the operated eye is different to that of the non-operated eye. This may make you feel unsteady or even sick until such time that you get used to it or your other eye is "matched up" by second eye cataract surgery.

As far as driving is concerned, your judgment of distances and speeds can be affected after cataract surgery and until you are confident you should not drive. If your vision is good and within the legal limit for driving (You must be able to read a car number plate from 20.5

metres) you may drive when you are confident. However, I would suggest that you wait until you are seen in clinic for your two week follow up check before you drive.

If you are still not confident at that stage, then further delay of driving until you get your new glasses would be advisable.

### **7.8. PLEASE REMEMBER TO:**

1. Report any increasing pain or reducing vision, or sudden increase in floaters in the operated eye by contacting the office on **07835 977069** immediately
2. Follow the instructions given to you regarding the wearing of the eye shield at the end of the operation. This will vary from patient to patient depending on the angle of the incision and if a suture was inserted or not for astigmatic correction.
3. Perform lid hygiene as explained above on point 4.
4. Use your drops as per instructions given on the bottles.
5. Wear dark glasses if the light hurts your eye
6. Eat plenty of fruit and vegetables to avoid constipation.

### **7.9. WHAT TO DO IF SOMETHING GOES WRONG**

Your operation has gone well but:

1. Should the vision get worse instead of getting better as the days go by,
2. Or if the eye becomes very painful at any stage
3. Or should you develop significant new floaters

Something is not right

**DO NOT SIT AT HOME HOPING IT WILL GET BETTER, RING US ON 07835-977069.**

### **Important**

**If you experience severe persistent ocular discomfort, headache, or increasing redness of the eye after the operation, or if the sight drops dramatically, it is very important that you contact us straight away on **07835 977069**.**

## 8. The risks of cataract surgery - what can go wrong?

Most cataract operations are straightforward, with the patient achieving good vision afterwards, but as with any surgery, complications can occur. Most complications can be dealt with effectively and cause no long-term problems, but some rare complications can be very serious. Although some patients do not wish to know anything about the things that can go wrong, others want to know about these in detail and so they are set out below.

### Summary

**A severe complication will occur in about 1 in 500 cataract operations. In about 1 in 1,000 operations the eye will be left with little or no sight. Following probably about 1 in 10,000 operations the patient will lose the eye. Some of the complications mean that a second operation will be necessary either to complete the cataract surgery or to treat the complication itself.**

### Specific complications (this list is not exhaustive)

- **Bruising:** of the white of the eye or the eyelids. Very common, temporary and very rarely more than a mild cosmetic problem.
- **Allergy to eye drops:** fairly common, causing an itchy and/or swollen eye until the drops are stopped. Uncomfortable but very rarely serious.
- **Post-operative pressure rise inside the eye:** common, and can usually be treated easily with eye drops or tablets without being admitted to hospital.
- **Post-operative inflammation of the eye:** common, and usually treated just with an increase in the frequency of post-operative eye drops.
- **Posterior capsular opacification (PCO):** very common, often after months or years. Occurs in probably around 1 in 4 operations to some extent. The back wall of the lens capsule is usually left in place to support the artificial lens, and in PCO it becomes cloudy and may cause blurring. If significant, PCO can be treated using a laser to make a small opening in the capsule. The laser procedure ("capsulotomy") is painless and takes just a few minutes in the clinic.
- **Posterior capsular rupture/vitreous disturbance (vitreous "loss"):** a split in the fragile back wall of the lens capsule, allowing the gel which fills the back compartment of the eye to escape. This is relatively common (about 1 in 50 cataract operations) and usually means that the length of the surgery is increased while the gel is carefully removed. Sometimes a second operation may be needed to clear the gel or to insert a special type of artificial lens, before which the sight will be very blurred. Usually the sight in the eye settles well, though sometimes it may not.
- **Zonular dehiscence:** the lens capsule is anchored in place by microscopic ligaments, the zonules, and occasionally these break ("dehisce") during surgery. The vitreous gel may be disturbed, with the same implications as posterior capsular rupture (see above).
- **Dropped nucleus:** about 1 in 500 operations. The hard central part of the cataract falls through a capsular rupture, usually meaning that cataract removal and lens implantation have to be completed with a second operation within a week or so,

before which your vision will be very blurred. Other implications are as for posterior capsular rupture above.

- **Endophthalmitis:** infection inside the eye. A serious complication occurring in about 1 in 1,000 operations, usually in the first few days after surgery. Treated in most patients with intensive antibiotic treatment, including another operation, but the response to treatment is sometimes poor and in some cases the eye is lost.
- **Retinal detachment:** peeling off of the seeing membrane lining the inside of the back of the eye, more common in short-sighted patients and after vitreous loss (see above). A serious complication eventually occurring in one in several hundred eyes after cataract surgery, though some of these would have occurred anyway. It is treated by operation, though sometimes vision is permanently reduced and very occasionally lost completely.
- **Suprachoroidal haemorrhage:** bleeding inside the eye may mean that the operation has to be stopped before finishing, and completed on another day. If the bleeding is very severe, it is possible for the sight or even the eye to be lost, though with modern surgical techniques this outcome is now extremely rare.
- **Corneal clouding (“decompensation”):** clouding of the normally clear front window of the eye. Common (up to 1 in 10 cataract operations) but usually temporary, though may require more frequent post-operative eye drops than usual if it occurs. Very occasionally the clouding fails to clear and a corneal transplant operation may then be required.
- **Unexpected refractive outcome:** despite sophisticated modern techniques to determine the correct power of artificial lens implant required, sometimes the result is more long- or short-sighted than planned. Usually this is mild and correctable by glasses. If severe, particularly if there is a large imbalance between the eyes, a lens implant exchange operation may be proposed, though contact lens wear may enable this to be avoided.
- **In younger people, loss of the ability of the eye to focus at different distances:** in everybody over the age of about 45, the ability to focus for close-up objects is gradually lost as the natural lens becomes less flexible. Reading glasses usually compensate fully. After cataract surgery, because the artificial lens implant is also rigid and cannot focus for different distances, reading glasses will also usually be required. Patients younger than about 50 therefore need to be aware that they will experience the sudden loss of active focusing and that it may take a while to adjust.
- **Surgical astigmatism:** though rare with modern small-incision surgery, occasionally the surface of the eye can be distorted by the effect of the surgical incision. This is usually correctable by glasses, contact lenses, or occasionally further surgery. Sometimes a stitch is put in during surgery to try to reduce pre-existing astigmatism.
- **Wound leak:** following about 1 in 100 operations, the surgical incision is not secure. Usually, this is suspected during the operation and a stitch is put in at the time but sometimes a further short operation may be required to stitch the wound.
- **Cystoid macular oedema:** though less common with modern surgical techniques, fluid can accumulate in the centre of the retina (the “macula”), affecting central vision. It is more common if posterior capsular rupture has occurred (see above), and in the presence of inflammation. If severe it can reduce vision significantly and be very difficult to treat.
- **Dislocation of the artificial lens:** very rare. The artificial lens may be displaced from its initial position within the eye and this may lead to reduced or double vision.

If completely displaced, an operation may be needed to retrieve it and replace it with a special type of implant.

- **Droopy eyelid:** in some patients, the upper eyelid may droop following the operation. Usually this gradually corrects itself but if severe an eyelid operation can be carried out to lift the lid.
- **Double vision:** although double vision is common in the first few hours after surgery, very occasionally it persists. A further operation may be curative.

## *9. Risks of the anaesthesia*

You will not be asked to sign a separate form giving permission for the anaesthesia needed for the operation. 99.5% of cataract surgery performed by Mr Manuchehri is done using drop anaesthesia (this is called “topical anaesthesia”). A small number of patients have a general anaesthetic (where they are put out completely) for their cataract operation. The main reason for cataract operation being carried out under general anaesthetic is either due to patients feeling claustrophobic under drapes or if people are completely nervous about having the operation while awake. A general anaesthetic carries a low risk of problems, either during or after anaesthetic though some of these have the potential to be very serious including loss of the eye and even – in exceptionally unusual circumstances – death. These risks can be magnified if you suffer with any other systemic illness such as heart disease or diseases of the lungs or circulation. Things that can go wrong during a general anaesthetic include allergy to the anaesthetic agent, severe bleeding behind the eye, severe damage to the eye from the needle or metal tube used for anaesthesia, and unintended passage of the anaesthetic agent into other important areas such as the fluid surrounding the brain.

## *10. Consent for Cataract Surgery*

You should read and understand this information. You may also wish to go through the information with a relative or carer. You will be asked to sign a consent form on the day of the operation and there will be a chance to discuss things with Mr Manuchehri who will take your signature and who will also sign the consent form to show that he is satisfied that you understand the risks involved in cataract surgery,. You will be able to keep a copy of these information sheets to remind you of what has been discussed.