Informed Consent for Cataract Surgery
With Implantation of an Intraocular Lens

INTRODUCTION
This information is given to you so that you can make an informed decision about having eye surgery. Take as much time as you wish to make your decision about signing this informed consent document. You have the right to ask any questions you might have about the operation before agreeing to have it. **Please read this form in its entirety. Fill out as much of the information as you are comfortable with and bring it with you to your pre-operative appointment.**

With aging, or due to trauma, disease or medications, the lens inside the eye becomes cloudy. This condition is called a cataract and can cause blurred or dimmed vision, glare or ghost images. There is no medical treatment for a cataract and if it changes your vision enough to interfere with daily life, the cataract can be removed. Surgery can be performed to replace the cloudy lens with an intraocular lens implant (IOL). This is an artificial lens, made of a plastic material, surgically and permanently placed inside the eye. Eyeglasses are usually needed after surgery to obtain the best vision. Cataract surgery will not correct vision lost due to glaucoma, diabetes, macular degeneration and other sight-affecting diseases. It will not remove floaters or decrease any distortion in your vision secondary to retinal diseases such as a macular pucker, macular edema or macular degeneration.

You should consider a cataract operation when you cannot function satisfactorily due to decreased vision caused by the cataract. After your doctor has told you that you have a cataract, you and your doctor are the only ones who can determine if or when you should have a cataract operation, based upon your own visual needs and medical considerations. You may decide not to have a cataract operation at this time. Non-surgical alternatives are continued wear of glasses or contact lenses to maximize your vision despite the presence of the cataract. Over time the cataract and the degree of vision loss resulting from it will continue to become worse.

EXAMINATIONS PRIOR TO SURGERY
To determine that you are a candidate to have cataract surgery, you have already undergone a complete eye examination by your surgeon. This included an examination to determine your glasses prescription (refraction), measurement of your vision (visual acuity), measurement of the pressures inside your eye (tonometry), microscopic examination of the front part of your eye (slit-lamp examination), and examination of the retina of your eye with your pupils dilated.

A pre-operative appointment is needed to perform additional measurements of the curvature of your cornea (keratometry) and the length of your eye (axial length). An intraocular lens calculation (biometry) to determine the best estimate of the proper power of the implanted IOL will be performed at this

appointment. You will have the opportunity to ask any questions you may have and a date for your surgery will be scheduled.

If you wear contact lenses, you will be required to leave them out of your eyes for a period of time prior to your pre-operative appointment. This is necessary because the contact lens rests on the cornea, distorting its shape, and decreasing the accuracy of the measurements. Incorrect measurements will result in vision being much poorer than was planned. Discontinuing contact lens use allows the corneas to return to their natural shape. Soft contact lens wearers must leave lenses out of both eyes for at least two weeks before their scheduled biometry appointment. Rigid (including gas permeable and standard hard lenses) contact lens wearers should leave lenses out of both eyes for at least three weeks before the biometry appointment. Rigid contact lens wearers frequently experience fluctuating vision once their lenses have been discontinued due to changes in the shape of the cornea. Although the cornea usually returns to its natural state within three weeks, this process may take longer, and you will need to remain contact lens free until stabilization is complete.

Please bring a list of all your medications, including over the counter supplements and vitamins with you to your appointment. Furthermore**, please inform the surgical coordinator if you are now or have in the past taken any of the following medications: Flomax (tamsulosin), Hytrin (terazosin), Cardura (doxazosin), Uroxatral (alfuzosin) or Rapaflo (silodosin).** These medications are usually used in men to treat urinary retention due to an enlarged prostate, but are sometimes also taken by women for urinary problems. Any of these medications can increase the risk of complications from cataract surgery. The risk of problems from these medications can be greatly reduced if your surgeon is forewarned that you have been exposed to any of these medications.

MORE INFORMATION ABOUT INTRAOCULAR LENS BIOMETRY

While biometry, the method used to calculate the power of the IOL, is very accurate in the majority of patients, the final result may be different from what you planned. As the eye heals, the IOL can shift very slightly toward the front or the back of the eye. The amount of this shift is not the same in everyone, and it may cause different vision than predicted. Patients who are highly nearsighted or farsighted have the greatest risk of differences between planned and actual outcomes. Patients who have had LASIK or other refractive surgeries are especially difficult to measure precisely. If the eye's visual power after surgery is considerably different than what was planned, surgical replacement of the IOL may be considered. It is usually possible to replace the IOL and improve the situation through a second surgical procedure or glasses or contact lenses can be used.

PRESBYOPIA AND ALTERNATIVES FOR NEAR VISION AFTER SURGERY

Presbyopia is a natural loss of the elasticity of the natural lens over time. It is the reason that reading glasses become necessary, typically after age 40, even for people who have excellent distance vision without glasses. Presbyopic people require bifocals or separate (different prescription) reading glasses in order to see clearly at close range. Conventional cataract surgery places a monofocal (single focus) IOL in the eye to correct for far distance and creates a state like presbyopia where objects at close distances are not clear. There are several options available to you to achieve acceptable distance and near vision after cataract surgery:

- GLASSES: You can choose to have a monofocal (single focus) IOL implanted for distance vision and wear separate reading glasses. Alternatively, you can have the IOL implanted for near vision and wear separate glasses for distance. If you have a monofocal IOL placed in your eye you will need to wear glasses to see at all distances other than the one the lens you have chosen focuses. If you choose a monofocal lens to see at distance, you will be unable to read at near, see the screen of a cell phone, tablet or computer, read a dashboard or print on a television without using glasses.
- MONOVISION: Your surgeon can implant IOLs with two different powers, one for near vision in one eye, and one for distance vision in the other eye. This combination of one distance eye and one reading eye is called monovision and can allow you to see a wider range of distances without the use of glasses.

  For most people, depth perception is best when viewing with both eyes optimally corrected for distance. Eye care professionals refer to this as binocular vision. Monovision can impair depth perception to some extent because the eyes are not focused together at the same distance. Because monovision will reduce depth perception, it is recommended that this option be tried with contact lenses prior to contemplating monovision correction involving IOLs because if you are not used to it or do not adapt to it, it will throw your balance off.

  Ocular dominance is analogous to right- or left-handedness. For most individuals, one eye is the dominant or preferred eye for viewing. Tests can be performed to determine which eye, right or left, is your dominant eye. For most people contemplating monovision, the dominant eye should be corrected for distance, and the non-dominant eye corrected for near vision. A very small percentage of persons may be co-dominant (rather analogous to being ambidextrous), and, in rare circumstances, a person may actually prefer using the dominant eye for near viewing. Monovision can be demonstrated with glasses or contact lenses and a trial of monovision to ensure you are comfortable with it is strongly recommended before choosing this IOL option. You can imagine how uncomfortable it might be if

monovision were to be rendered "the wrong way around." It might be compared to a right-handed person suddenly having to write, shave, apply make-up, etc., with the left hand. Be sure you understand this and have discussed with your surgeon which eye should be corrected for distance, and which for near. If you have any doubts or uncertainty whatsoever, surgery should be delayed until a very solid comfort level is attained through the use of monovision contact lenses. Most monovision patients are more comfortable wearing a pair of glasses to balance the vision in the two eyes for prolonged distance tasks, such as sports like tennis and for night driving, or for prolonged reading tasks. Once surgery is performed, it is not always possible to undo what is done, or to reverse the distance and near eye without some loss of visual quality. Elective laser vision correction to reverse the monovision will also not be covered by your medical insurance.

- MULTIFOCAL IOL: Your surgeon can implant a multifocal IOL that provides distance vision and near vision in the same eye. These lenses can be placed in both eyes to achieve the highest chance of being spectacle-free. Several types and strengths of lenses are available. Depending upon the technological features of the IOLs, they may be described as "accommodating," "apodized diffractive," or "presbyopia-correcting." All of these lenses are "multifocal," meaning they correct for both distance vision and other ranges, such as near or intermediate. After implantation in both eyes, about 80% of patients never need to wear glasses. An additional 15% use glasses for some activities and the remaining 5% wear glasses all the time. It is important to realize that spectacle independence cannot be guaranteed with any of the currently available IOL options.

  While a multifocal IOL can reduce dependency on glasses, it might result in less sharp vision, which may become worse in dim light or fog. It may also cause some visual side effects such as rings or circles around lights at night. It may be difficult to distinguish an object from a dark background, which will be more noticeable in areas with less light. Driving at night may be affected. A small percentage of people have severe night vision problems. The lens is not recommended for individuals who drive a considerable amount at night or for pilots. If complications occur at the time of surgery, a monofocal IOL may need to be implanted instead of a multifocal IOL.

  At the time of the biometry appointment, some testing in addition to that performed for conventional monofocal surgery are performed. Additional keratometry readings, corneal topography, ultrasound measurements of the retina (OCT) and ocular dominance testing are performed. An additional visit with your surgeon will also be arranged before the surgery to review the results of these studies and the survey form that you completed. You and your surgeon will finalize which multifocal lens should work the best for you.

Medicare has determined that multifocal IOLs and the additional associated services for determining the appropriate IOL in conjunction with cataract surgery are only partially covered. Expenses in excess of those incurred for conventional cataract surgery are the responsibility of the patient electing this type of surgery. In the event of complications from the surgery, it may be possible that additional procedures, eye drops or even hospitalization may be required. Some or all of these costs may be covered by your medical insurance. If they are not, you are responsible for these.

ASTIGMATISM CORRECTION

In many people the cornea is not perfectly round. Astigmatism is when the cornea has two distinct surface curvatures making its shape more like a football than a basketball. The result of astigmatism is blurry vision at all distances because objects are focused into two separate images.

- GLASSES: You can choose to have a monofocal IOL implanted for either distance or near vision and wear glasses or contact lenses to correct the astigmatism.
- LIMBAL RELAXING INCISIONS (LRI): are a single or a pair of fine curved incisions made with a special blade at the junction of the cornea and the sclera (white) of the eye. These cuts are designed to permanently flatten the steepest part of the cornea and make it more like a sphere. They are only effective for small amounts of astigmatism. The most common complication from LRIs is a failure to permanently reduce the all or some of the pre-existing astigmatism. Irregular healing of the incisions may cause the corneal surface to be distorted, resulting in blurred vision. Corneal abrasions at the site of LRIs are common during the first few days after surgery. This complication along with irregular healing are more likely in patients with pre-existing corneal diseases. Light sensitivity, and glare from headlights can occur for a variable length of time after LRIs have been performed. Fluctuations in vision may occur during the first three months after surgery as the incisions stabilize. This is more likely to occur with larger incisions and with pre-existing corneal disease. Scarring is a result of making incisions in living tissues and the eye will be more susceptible to a blow to the eye during the healing phase. Protective eyewear is recommended for all contact and racquet sports. Corneal perforation can occur of the LRI is too deep and could require the placement of sutures. Because of the relatively unpredictable success of LRIs at reducing pre-existing astigmatism, no additional fee is charged to you or your insurance company if you decide to have an LRI performed.
- TORIC IOL: A toric IOL is a monofocal or a multifocal IOL that has an additional component to correct astigmatism. Patients who choose a monofocal lens can have distance or near correction or can have monovision correction. While the majority of patients with monofocal toric

IOL implants are very pleased with their results, in the US FDA clinical trials a higher incidence in visual disturbances were reported with these lenses when compared with conventional monofocal lenses. Events during surgery may make it impossible to implant a toric IOL and a monofocal lens may need to be implanted instead.

If you decide to have surgery using a toric IOL, additional measurements beyond those performed for monofocal IOL implantation are necessary. At the time of your biometry appointment, additional keratometry readings and corneal topography will be performed. An additional visit with your surgeon will be scheduled to review the results of this testing and your surgeon will choose the lens strength that is most appropriate for you.

Medicare has determined that toric IOLs and the additional associated services for fitting them in conjunction with cataract surgery are only partially covered. Expenses in excess of those incurred for conventional cataract surgery are the responsibility of the patient electing this type of surgery. In the event of complications from the surgery, it may be possible that additional procedures, eye drops or even hospitalization may be required. Some or all of these costs may be covered by health insurance. If they are not, you are responsible for these costs.

ANESTHESIA, PROCEDURE, AND POSTOPERATIVE CARE

A nurse will make your eye numb with drops and an anesthetic gel placed on the eye. You may also undergo light sedation administered by a nurse anesthetist or elect to have the surgery done under general anesthesia.

An incision, or opening, is then made in the eye. This is nearly always self-sealing but it may require closure with very fine stitches (sutures) which will gradually dissolve over time. The natural lens in your eye will then be removed by a type of surgery called phacoemulsification, which uses a vibrating probe and sound waves (ultrasound) to break the lens up into small pieces. These pieces are gently suctioned out of your eye through a small, hollow tube inserted through the small incision in your eye. After your natural lens is removed, the IOL is placed inside your eye. In rare cases, it may not be possible or safe to implant the IOL you have chosen, or any IOL at all.

After the surgery, your eye will be examined the next day, and then at intervals determined by your surgeon. During the immediate recovery period, you will place drops in your eyes for about 4 weeks, depending on your individual rate of healing. You should be able to resume your normal activities within a week, and your eye will usually be stable within 4 to 6 weeks, at which time glasses or contact lenses could be prescribed.

RISKS OF CATARACT SURGERY

The goal of cataract surgery is to correct the decreased vision that was caused by the cataract. Cataract surgery will not correct other causes of decreased vision, such as glaucoma, diabetic retinopathy, age-related macular degeneration or macular pucker. Cataract surgery is usually quite comfortable. Mild discomfort for the first 24 hours is typical, but severe pain would be extremely unusual and should be reported immediately to the surgeon.

Cataract surgery is generally a very safe procedure with a very low complication rate. However, all surgeries carry some risks and can result in unsuccessful outcomes, complications, or injury. In some cases, complications may occur weeks, months, or even years later. These and other complications may result in poor vision, total loss of vision, or even loss of the eye in rare situations. Depending upon the type of anesthesia, other risks are possible, including cardiac and respiratory problems, and, in rare cases, death.

Risks of cataract surgery include, but are not limited to:

1. Complications of removing the natural lens may include bleeding; rupture of the capsule that supports the IOL; swelling and clouding of the cornea, which can require a corneal transplant; swelling in the central retina (cystoid macular edema), which can lead to a permanent reduction in vision; retained pieces of lens in the eye, which may need to be removed in a second surgery; infection; detachment of the retina (particularly in highly nearsighted patients), but which can usually be repaired; eye pain; a droopy eyelid; increased astigmatism; glaucoma; or double vision. These and other complications may occur whether or not an IOL is implanted and may result in poor vision, total loss of vision, or even loss of the eye in rare situations. **Additional surgery may be required to treat these complications.**
2. Complications associated with the IOL may include increased night glare and/or halos, double or ghost images, and dislocation of the IOL. Multifocal IOLs have an increased likelihood of glare and halos. In some instances, corrective lenses or surgical replacement of the IOL may be necessary for adequate visual function following cataract surgery.
3. Complications associated with local anesthesia injections around the eye include injury to the optic nerve, interference with the circulation of the retina, a droopy eyelid, and double vision.
4. If complications occur at the time of surgery, it may not be safe to implant an IOL in your eye even though you may have given prior permission to do so.
5. The selection of the proper IOL, while based upon sophisticated equipment and computer formulas, is not an exact science. After your eye heals, its visual power may be different from what was predicted by preoperative testing. You may need to wear glasses or contact lenses after surgery to obtain the best vision. Additional surgeries such as IOL exchange, placement

of an additional IOL, or refractive laser surgery may be needed if you are not satisfied with your vision after cataract surgery.

6. The results of surgery cannot be guaranteed. If you chose a multifocal IOL, it is possible that not all of the near (and intermediate) focusing ability of your eye will be restored. Additional surgery, glasses or contact lenses may be necessary.
7. Regardless of the IOL chosen, you may develop an after-cataract, or clouding of the capsule behind the IOL. This may happen years after the surgery and is treated with an in-office laser procedure to restore vision.
8. At some future time, the IOL implanted in your eye may dislocate and have to be repositioned, removed surgically, or exchanged for another IOL.
9. If your ophthalmologist has informed you that you have a high degree of hyperopia (farsightedness) and/or that the axial length of your eye is short, your risk for a complication known as a choroidal effusion is increased. This complication could result in difficulties completing the surgery and implanting a lens, or even loss of the eye.
10. If your ophthalmologist has informed you that you have a high degree of myopia (nearsightedness) and/or that the axial length of your eye is long, your risk for a complication called a retinal detachment is increased. Retinal detachments can usually be repaired but may lead to vision loss or blindness.
11. Since only one eye will undergo surgery at a time, you may experience a period of imbalance between the two eyes, particularly if the eye that did not have surgery is either very farsighted or very nearsighted. Glasses may not be able to correct this problem because of the marked difference in the prescriptions, so you will either temporarily have to wear a contact lens in the non-operated eye or will function with only one clear eye. In the absence of complications, surgery in the second eye can usually be accomplished within 2 to 4 weeks, once the first eye has stabilized.

FEMTOSECOND LASER ASSISTED CATARACT SURGERY

The femtosecond laser is a medical device that can be used to perform some of the steps of cataract surgery and to create curved incisions in the cornea to reduce astigmatism. There are benefits and risks associated with the use of the laser, and there are additional costs. In traditional cataract surgery, the surgeon uses blades to create an incision in the cornea and other specialized instruments to create an opening in the front of the lens capsule. The surgeon then uses a phacoemulsification device that uses ultrasound to break the lens into small pieces and remove it from the eye. The femtosecond laser can be used to create a bladeless incision, open the lens capsule and pre-soften the cataract so that less ultrasound energy is needed from the phacoemulsification device. Less ultrasound energy results in less damage to the cells of the cornea and is particularly of benefit to patients with pre-existing compromised corneal endothelial cells. Just like with conventional cataract surgery, a monofocal,

multifocal, or toric IOL can be placed in your eye depending on your needs and preference.

Medicare and insurance companies do not cover the cost of the use of the Femtosecond Laser to assist in cataract surgery or to perform incisions that decrease astigmatism. At this time, Atlee Gleaton Eye Care does not offer femtosecond laser assisted cataract surgery.

PATIENT CONSENT

Cataract surgery, by itself, means the removal of the natural lens of the eye by a surgical technique. In order for an IOL to be implanted in my eye, I understand I must have cataract surgery performed either at the time of the IOL implantation or before IOL implantation. If my cataract was previously removed, I have been informed that my eye is medically acceptable for IOL implantation.

Education materials have been provided to me and I have reviewed them. The basic procedures of cataract surgery, the reasons for the type of IOL chosen for me, and the advantages and disadvantages, risks, and possible complications of alternative treatments have been explained to me by my ophthalmologist. Although it is impossible for the doctor to inform me of every possible complication that may occur, the doctor has answered all my questions to my satisfaction.

I consent to the presence of technicians or representatives from surgical or medical device manufactures during the procedure for consultation with my surgeon. I consent to the creation of recordings of the procedure that will not reveal my identity for the purpose of medical education.

I consent to the disposal of any tissues removed from my body during surgery according to State and Federal regulations.

I understand the great importance of keeping all of my post-procedure visits and I agree to follow up at proper intervals as recommended by my physician. I understand that by not complying with these visits, I may jeopardize the ultimate outcome of my treatment.

In signing this informed consent for cataract operation and/or implantation of an IOL, I am stating that I have been offered a copy, I fully understand the possible risks, benefits, and complications of cataract surgery and I have read this informed consent or had it read to me by _____ **(name).** I believe that I have sufficient information to give this informed consent and sign of my own free will, without coercion.

IOL OPTIONS: CHOOSE ONE OF THESE FIVE OPTIONS (check only one):

The following options cover currently available IOL options including considerations to best meet your visual needs. Medicare and most other insurers will pay for removal of the cataract, a monofocal IOL and the pre-operative testing to determine the correct power of the monofocal implant. Extra expenses for toric and multifocal IOLs including the implants themselves, additional office visits and pre-operative testing are not covered benefits and are directly billable to you. Choosing a toric or multifocal IOL will result in "out-of-pocket" expenses.

- ☐ **Monofocal IOL Option**

I wish to have a cataract operation with a monofocal IOL on my **RIGHT/LEFT** eye. I will need to wear glasses for **NEAR/DISTANCE** vision.

- ☐ **Monovision Option**

I wish to have a cataract operation with an IOL implanted to achieve monovision. I wish to have my **RIGHT/LEFT** eye corrected for **DISTANCE/NEAR** vision. I will need to wear glasses to see the best at some distances.

- ☐ **Multifocal IOL Option**

I wish to have a cataract operation with a multifocal IOL implant on my **RIGHT/LEFT** eye. I may still have to wear glasses to see well at all distances.

- ☐ **Toric monofocal IOL Option**

I wish to have a cataract operation with an IOL that corrects astigmatism on my **RIGHT/LEFT** eye. I will need to wear glasses for **NEAR/DISTANCE** vision.

- ☐ **Toric multifocal IOL Option**

I wish to have a cataract operation with a multifocal IOL implant that also corrects astigmatism in my **RIGHT/LEFT** eye. I may still have to wear glasses.

LRI OPTIONS: CHOOSE ONE OF THESE TWO OPTIONS (check only one)

- ☐ I wish to have a **Limbal Relaxing Incision** performed on my eye to decrease astigmatism if my surgeon feels that I could benefit from this procedure. I will not be charged an additional fee for this procedure.
- ☐ I DO NOT wish to have a **Limbal Relaxing Incision** performed on my eye to decrease astigmatism even if my surgeon feels that I could benefit from this procedure.

I understand that if I have chosen a multifocal or toric IOL and/or femtosecond laser assisted cataract surgery, that these technologies will not be paid for by my insurance company. I understand that I am personally responsible for any additional amount not covered by my insurance. All fees will be paid no later than 1 week in advance of my surgery day or the requested procedure will not be performed.

_____ _____

Patient (or person authorized to sign for patient) Date

_____ _____

Witness Signature Date

_____ _____

Physician Signature Date

PLEASE BRING THIS FORM TO OUR OFFICE WHEN YOU COME FOR YOUR BIOMETRY APPOINTMENT.

IF YOU WOULD LIKE TO HAVE EITHER A MUTIFOCAL OR TORIC IOL, PLEASE CALL THE SURGICAL COORDINATOR AT 622-3185 IN ADVANCE OF YOUR APPOINTMENT SO THAT WE CAN SCHEDULE SUFFICIENT TIME TO COMPLETE ALL OF THE NECESSARY PRE-OPERATIVE TESTING ON THE SAME DAY. FAILURE TO NOTIFY THE SURGICAL COORDINATOR WILL REQUIRE AN ADDITIONAL VISIT TO COMPLETE ALL TESTING ON ANOTHER DAY.

A NOTICE TO OUR MEDICARE PATIENTS ABOUT GLASSES

AFTER CATARACT SURGERY

After cataract surgery, Medicare provides a benefit of one pair of eyeglasses. This handout is intended to give you information about what you can expect to pay out of pocket if you plan to use this benefit. The dollar amounts in this handout are accurate as of January 2013. However, the maximum amount that Medicare will pay toward glasses can change every 3 months based on funding of Medicare and its policy changes. Therefore, the dollar amounts in this handout should be treated as an estimate rather than a guarantee of your actual expenses.

To take advantage of this benefit, you must pay your premiums. You must meet your yearly deductible before Medicare's glasses benefit applies. For your frames and lenses, Medicare will pay 80% of the allowable amount for both frames and lenses. You are responsible for paying the remaining 20% if you do not have a secondary insurance carrier.

Medicare allows a frame benefit of $65. Medicare will pay $52 (80%) toward a "standard frame" and you are responsible for paying $13. Medicare considers any other more expensive frame a "deluxe frame." Medicare allows you to choose any frame you want. If you choose a "deluxe frame," Medicare will still pay $52 toward the cost of the frame, but you are responsible for the remainder of the cost of the frame. Typical optical shop frame prices are $150 to $300.
Medicare allows a lens benefit of $80 for either a single vision pair of plastic lenses or a pair of bifocals. Medicare will pay $64 (80%) toward single vision or bifocal lenses and you will pay the remainder of the cost for the lenses. A typical optical shop single vision lens cost is about $75. The typical cost for bifocal lenses is $145.

Medicare allows a lens benefit of $100 for either plastic trifocal or progressive lenses. Medicare will pay $80 (80%) for these types of lenses. You will pay the remainder of the lens cost. The typical optical shop price for trifocal lenses is $165. An average cost for progressive lenses is $235. Between frames and lenses, you can expect to pay out of pocket $25-265 for single vision lenses, $30-330 for bifocal lenses, $35-335 for trifocal lenses, and $35-500 for progressive lenses.
Medicare does not pay for tinting of lenses, photochromic lenses, scratch resistant coatings, antireflective coatings, polarized lenses, hi-index plastics or polycarbonate lenses. You will bear the cost of any of these lens options.
When you receive your glasses prescription about a month after cataract surgery, you can have it filled by the optical shop of your choice. However, not all optical

shops participate with Medicare. This means the optical shop will not bill Medicare and you will be responsible for the full cost of the lenses. Atlee Optical, the independent optical shop in our building is participating with Medicare.

If you choose an optical shop that participates with Medicare and is owned by another eye care provider (ophthalmologist or optometrist), you may be required to have an eye examination and refraction by a provider in that office in order to use your Medicare eyeglass benefit. This requirement depends on the type of arrangement the owning eye care provider has with Medicare to provide post-cataract surgery glasses. Medicare does not pay for refractions (determining your eyeglass prescription) and you will need to pay out of pocket for this service.

Quality of frames and lenses varies by price. Optical shops owned by eye care providers as well as independent optical shops tend to carry higher quality materials than volume providers such as Sears, Pearle Vision, Lens Crafters, and Wal-Mart. In addition, the opticians in independent and eye care provider locations tend to be highly-trained and certified professionals. In our experience, the incidence of lens or frame defects and of problems with adapting to glasses are much less common when glasses are made by a private practice or independent optician. Before you purchase lenses, ask for the optical shop's policy on remaking glasses if you should be dissatisfied with your prescription. You will be responsible for paying for a second pair of lenses if the shop you chose does not stand behind the quality of their product and the work of their staff.

You can consult your Medicare handbook or contact Medicare if you have additional questions about glasses after cataract surgery.

Preparing for and Undergoing Cataract Surgery

Before Leaving Home

Have your ride home arranged before you arrive at the hospital. Because you will receive sedation medication, you cannot drive after your surgery. Wear loose, comfortable clothing as it is generally not necessary to change into a hospital gown. Do not apply makeup. Leave jewelry and valuables at home. You will not be able to wear a hearing aide in the ear on the same side during your cataract surgery. You can wear your hearing aide up until you go into the operating room, but bring a container to store it in while you are in surgery. If you use nitroglycerin for chest pain or use inhalers for breathing problems, take them to the hospital with you.

Same Day Surgery

In the preoperative area, a nurse will verify your medical information, measure your vital signs, and administer a mild anti-anxiety medication. Your instructions for after surgery will be reviewed and you will be given a copy if you have misplaced the written instructions you received from the office. An anesthetic eye drop will be placed in your eye. You will receive a gel solution or dilating drops in the eye that will have surgery. These medications can take up to 30 minutes to dilate your pupil in preparation for surgery. Because of the strength of these drops, your pupil may remain dilated for about 24 hours. While you are waiting for surgery, you will be transferred to a specialized operating bed. If you have any problems lying flat, be sure to let the nurse know so that the bed can be adjusted for your comfort. An intravenous line will be started in your hand or arm so that additional medication can be administered during your surgery to keep you comfortable. The sedatives probably will make you drowsy and you may fall asleep or not remember parts of the surgery. You will be monitored by a machine that measures your blood pressure, heart rate, and breathing from this time until you return back from the operating room. You will receive supplemental oxygen through a cannula in your nose. You will see your surgeon before going to the operating room and a mark will be placed on your forehead over the eye having surgery. If you are having astigmatism correction as part of your surgery, your surgeon will place marks on your eye with a special instrument before going to the operating room.

During this period, your family member or a friend can usually keep you company.

Undergoing Small-Incision Cataract Surgery

In the operating room, a nurse will clean the skin around your eye and cover your eyelids with a sterile drape. Your surgeon will use a device called a speculum to hold your eyelids open during the surgery so that you cannot blink. You will be able to see lights from the surgeon's microscope but you will not be able to see any instruments. Patients often will see spinning light patterns and kaleidoscope colors during surgery. You may receive additional anesthetic medication administered by your surgeon into the eye in the operating room at the beginning of your surgery. Needles are not needed for this type of anesthesia. Because you cannot blink, a nurse will place eye drops to rinse and moisten your eye during surgery. You may be aware of a cool, wet sensation from these drops. You may also be aware of pressure on your eye at times during the surgery, although few patients have discomfort. You will be able to talk to your surgeon and nurse during the surgery. If you need to cough or sneeze, you can let your surgical team know so that the surgery can be stopped momentarily.

At the end of surgery, a clear plastic shield will be placed over the eye to protect it. You will wear this overnight. Your vision may be blurry at first, but you should be able to see immediately after surgery.

Recovery

After surgery you will be moved to the recovery area. Your family member can join you again and you will be given something to eat and drink. You can transfer to a chair and the intravenous line will be removed. You will be assisted to your vehicle and you should allow your family member to help you from the car into your home. Many patients are sleepy after surgery and you may want to nap until the sedative medication wears off. You should be able to resume driving the day after surgery unless your surgeon instructs you otherwise. However, if you feel your vision is not adequate, you should not drive.

You should follow your written instructions regarding eye drops after surgery. You will see your surgeon within 24 hours of surgery to check the condition of your eye.

After cataract surgery, you may experience some of the following symptoms, all of which are normal and disappear with time: blurred or fluctuating vision, light sensitivity, a scratchy feeling in the eye, tearing, redness, stinging from eye drops, halos around lights, floaters, flickering vision, and a curved dark shadow in your peripheral vision. Don't be concerned if your recovery rate is different from someone else. Everyone heals differently and many people find the rate of recovery is different between their own two eyes. Comparing experiences with others can lead to needless anxiety and confusion. Follow your surgeon's instructions rather than advice from friends and family.

While you wait for your eye to heal, you can continue to wear your old glasses. If you would prefer, an optician can remove the lens on the side where you had surgery. If you wear contact lenses, you can resume wear in the eye that did not have surgery. You may find that over-the-counter reading glasses help during this time. These inexpensive lenses are sold in most grocery or drug stores and optical shops. They come in multiple standard powers from +1.00 to +4.00. Try them on in the store and see which works best for you. They work less well if you have a large difference between your eyes or if you have astigmatism. Most people have healed sufficiently to have new prescription glasses issued about 4 weeks after surgery.

l) Do you mind wearing glasses? YES/NO

2) What type of glasses do you presently wear (circle your answers)? Bifocal Trifocal Progressive (no-line bifocal) Reading Only Distance Only

3) How many hours a day do you presently wear glasses?
_____ hours

4) How many hours per week do you spend driving after dark?
_____ hours

5) How many hours a week do you spend working on a computer?
_____ hours

6) How many hours a week do you spend reading small print materials (magazines, books, newspaper, etc.)?
_____ hours

7) What percentage of your reading is done without glasses?
_____%

8) What hobbies, sports, and recreational activities do you enjoy?

_____

9) How many hours a week do you spend on such activities?
_____ hours

10) If you wear contact lenses, what type do you wear?
Distance both eyes Monovision Bifocal lenses

11) Do you experience halos around lights at night? YES/NO

12) What is your occupation?

_____

13) In order of importance from 1-10, which activities would you prefer to do with less dependence on glasses?

____ Reading books/newspapers ____ Reading medicine bottles

____ Looking at your watch ____ Viewing a cell phone

____ Knitting/sewing ____ Applying makeup/Shaving your face

____ Card or table games Computer or tablet use

____ Playing music Watching live sporting events

____ Playing sports ____ Watching TV ____ Driving ____ Hunting

14) Other activities important to your lifestyle not listed here:

_____

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The Eye M.D. Association
2012-2013

multifocal and accommodative IOLs
a closer look

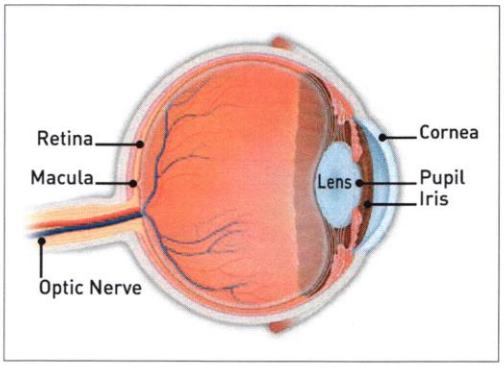
HOW WE SEE THE WORLD AROUND US

For us to see clearly, light rays enter our eyes through the clear **cornea**, **pupil** and **lens**. These light rays are focused directly onto the **retina**, the light-sensitive tissue lining the back of our eyes.

The retina converts light rays into impulses that are sent through the optic nerve to our brain, where they are recognized as images. Seventy percent of the eye's focusing power comes from the cornea and 30 percent from the lens. While problems with the cornea (the clear front window of your eye) or the lens may prevent light from focusing properly on the retina, a **refractive error** may prevent us from seeing clearly in certain situations, despite having a clear cornea and lens.

Today, many people are choosing to correct their refractive errors with options other than eyeglasses or contacts.

Various forms of refractive surgery — such as LASIK — improve vision by permanently changing the shape of the cornea to redirect how light is focused onto the retina. In some cases, instead of reshaping the cornea, the eye's natural lens is either replaced or enhanced by an implanted **intraocular lens** (**IOL**) that helps correct vision.



THE ROLE OF MULTIFOCAL AND ACCOMMODATIVE IOLs IN CLEARER VISION

The eye's lens, which contributes to your focusing power, has four primary functions:

Transparency. To provide a clear medium through which light rays from an object can reach your retina.

Optical. To focus a sharp image of an object onto the retina.

Anatomic. To create a functional barrier between the front (anterior) and back (posterior) segments of the eye.

Accommodation. To vary the eye's refractive power, providing clear images of objects over a wide range of near, far and intermediate distances.

For people with cataracts, the lens of the eye becomes cloudy. Light cannot pass through it easily and vision is blurred. Cataract surgery is used to remove the cloudy lens and replace it with a clear IOL.

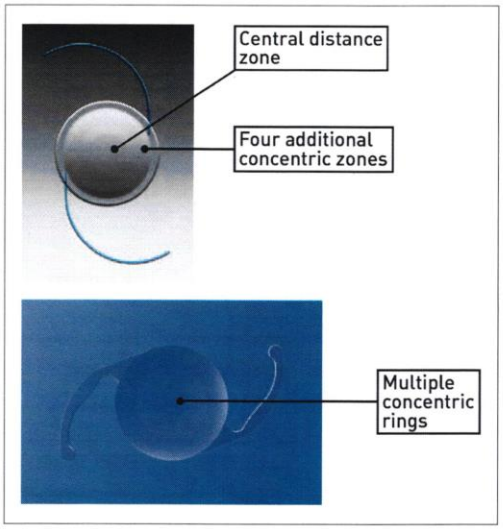
In some cases, people without cataracts who want to reduce or eliminate their need for glasses and who may not be candidates for LASIK may choose to have an IOL implanted in a procedure called refractive lens exchange (RLE). This procedure may be used to correct moderate to high degrees of myopia (nearsightedness), hyperopia (farsightedness) and presbyopia (the inability to focus at near distances with age).

When the natural lens is removed during cataract surgery, or removed as a form of refractive surgery, IOLs are inserted to take the place of the natural lens. IOLs are artificial lenses surgically implanted in the eye, replacing the eye's natural lens. These lenses help your eye regain its focusing and refractive ability.

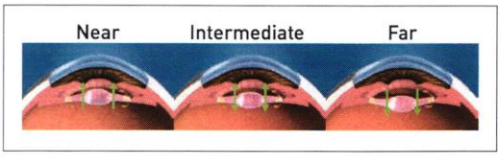
The most common type of implantable lens is the monofocal, or fixed-focus lens, which is intended to give clear vision at one distance. In order to see clearly at all ranges of distances, one is required to wear glasses or contact lenses.

Other types of lenses which are gaining in popularity are the **multifocal** and **accommodative lenses**. These IOLs may be used to treat myopia, hyperopia and presbyopia and may diminish the need for glasses, contact lenses, or both to see clearly at near and far distances.

A **multifocal IOL** has several rings of different powers built into the lens. The part of the lens (ring) you look through will determine if you see clearly at a far, near or intermediate distance (this is sometimes called pseudoaccommodation).



Two types of multifocal lenses



The accommodative lens is hinged to allow the eye to focus on near, intermediate and distant objects.

An **accommodative IOL** is hinged to work in coordination with the eye muscles. The design allows the accommodative lens to move forward as the eye focuses on near objects, and move backward as it focuses on distant objects.

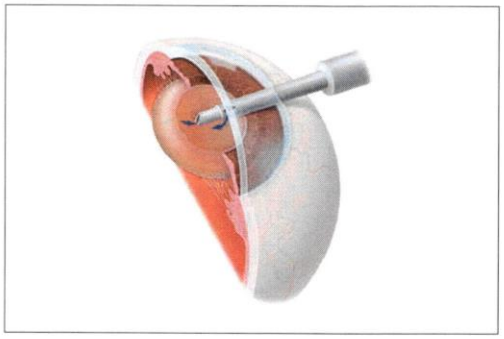
HOW THE IOL IS IMPLANTED

The IOL is implanted in an outpatient surgical procedure that takes approximately 15 to 20 minutes.

In addition to a preoperative eye exam, measurements of the eye are taken to give the surgeon the necessary information to perform the procedure. These measurements include:

- Refractive error measurement;
- Pupil evaluation and size measurement;
- Measurement of the curvature (keratometry) and overall shape of the cornea (topography);
- Measurement of the length of the eye from the cornea to the retina (called an A-scan);
- Calculations to determine the correct power of lens (IOL) to use.

After the eye is numbed with topical or local anesthesia, one to three small incisions are made close to the edge of the cornea. A tiny, high-frequency ultrasound instrument is inserted into the eye to break up the center of the eye's natural lens. The natural lens is then gently vacuumed out through one of the incisions. The IOL is folded and inserted through the same incision that was used to extract the natural lens and placed into the "capsular bag" that originally surrounded the natural lens. After the procedure, these incisions are usually "self-sealing," requiring no stitches. Once the multifocal or accommodative IOL is implanted, your eye can focus on near, intermediate and far distances.



The natural lens is gently vacuumed out through an incision.

The IOL is then folded and inserted through the same incision.

It should be noted that the focusing ability of the lens may not be fully realized for six to eight weeks after the procedure. In addition, your eye must relearn how to focus on objects at various distances in order to see clearly. Patients who are pilots, night drivers or those who spend a lot of time in front of the computer may not be good candidates for the multifocal or accommodative IOLs. Patients who are intolerant of a small amount of glare, halos, or both around lights, especially at night, may not be good candidates for these types of lenses.

Some of the risks and possible side effects of IOL implantation include:

- Overcorrection or undercorrection (with a possible need for a retreatment);
- Infection;
- Increased floaters or retinal detachment;
- Dislocation of implant;
- Halos and glare;
- Decreased contrast sensitivity;
- Clouding or hazing of a portion of the IOL (called posterior capsular opacification);
- Blurred vision if patient suffers from dry eye;
- Possible need for additional surgery to fine-tune the IOL prescription;
- Loss of vision.

TALK WITH YOUR OPHTHALMOLOGIST ABOUT YOUR VISION NEEDS

While multifocal or accommodative IOLs do offer some people an alternative to dependence on glasses or contact lenses, they are not recommended for everyone. You may not be a good candidate for these IOLs if you are generally satisfied with glasses or contact lenses and unwilling to accept the uncertainty in the outcome of the surgical procedure. Even after the procedure, certain people may still need to wear glasses or contacts, especially for very fine print.

Most people are happy with their multifocal IOLs and the decreased need for glasses. However, a small percentage of patients are bothered by halos, glare and a change in their quality of vision. Rarely, some people may request that their surgeon remove the multifocal or accommodative IOL and replace it with a monofocal IOL.

Surgery, contacts and glasses each have their benefits and drawbacks. The best method of correcting your vision should be decided after a thorough examination and discussion with your ophthalmologist (Eye M.D.). Discuss your needs and lifestyle with your ophthalmologist to determine the best procedure for you.

ADDITIONAL ONLINE RESOURCES

Scan this code with your smartphone for more about multifocal and accommodative IOLs:

COMPLIMENTS OF:

Academy reviewed 03/12

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The Eye M.D. Association
American Academy of Ophthalmology
P.O. Box 7424, San Francisco, CA 94120-7424

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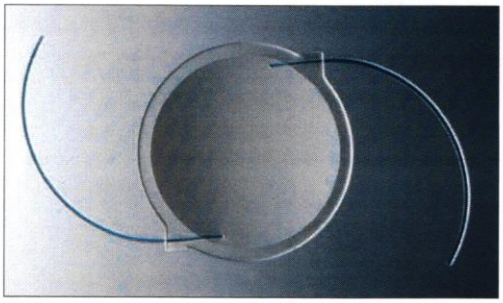
2012-2013

intraocular lenses
a closer look

WHAT IS AN INTRAOCULAR LENS?

An intraocular lens, commonly called an IOL, is a tiny artificial lens for the eye.

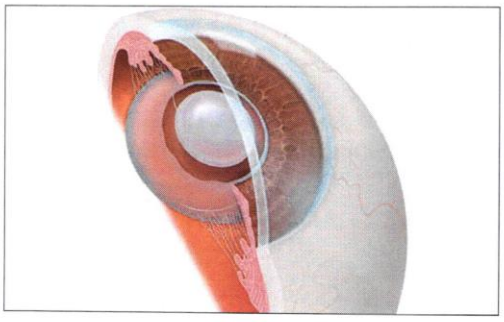
An IOL permanently replaces the eye's natural lens when it is removed during cataract surgery.



Intraocular lens

WHY IS THE EYE'S NATURAL LENS REMOVED DURING CATARACT SURGERY?

Normally, the eye's natural lens is clear, allowing light to pass through and focus on the retina. When a cataract forms, the lens becomes cloudy, and light can no longer remain sharply focused when it passes through the lens to the retina. As a result, vision becomes blurred. The only way to treat a cataract is by removing the clouded lens itself.



The IOL implant permanently replaces the natural lens.

CAN I SEE CLEARLY WITHOUT A LENS?

No, the eye cannot focus properly without a lens. Thick eyeglasses, a contact lens or an intraocular lens must be substituted to restore the eye's focusing power. Because an IOL is a permanent replacement for the natural lens, it is used in the majority of all cataract surgery patients. The IOL provides better vision than thick eyeglasses do, and it is much more convenient than a contact lens because it doesn't have to be taken on and off the eye.

HOW WILL AN IOL AFFECT MY VISION?

IOLs come in different focusing powers, just as contact lenses or prescription eyeglasses do. Your ophthalmologist (Eye M.D.) will perform a special preoperative evaluation of your eye to determine the proper power of the lens implant. The length of your eye and the curvature of your cornea are measured with special instruments. Your ophthalmologist then uses these measurements to calculate the correct focusing power of the IOL.

The natural lens of your eye has the ability to change shape in order to focus at varying distances. The IOL, which cannot change shape, can be calculated to see clearly up close, at mid-range, or at long range. In most cases, you will wear thin glasses to allow you to see all distances in focus. There are newer IOLs, which allow for different focusing powers within the same lens. With these **multifocal** or **accommodative** IOLs, it is possible to see more clearly at various distances than **monofocal** or fixed-focus lenses. For those with astigmatism, or a curved cornea, there are monofocal IOLs available with astigmatism correction built into the lens. These are called **toric** IOLs and people with significant degrees of astigmatism are usually most satisfied with these lenses. You should discuss these possibilities with your eye surgeon, and together, you will decide which lens is right for you.

In most cases you should notice significant improvement in vision after cataract surgery.

WHERE WILL THE IOL BE PLACED?

An IOL is placed in the center of the pupil, either in front of or behind the iris (the colored part of your eye). It is most commonly placed behind the iris where the natural lens was located.

WHAT IS THE IOL MADE OF?

Most of the IOLs implanted today are made of silicone or acrylic materials. IOLs contain UV-blocking materials to protect the eye from exposure to UV and other potentially damaging light radiation. These lenses can be folded and inserted through a small (approximately 3 millimeter) incision during cataract surgery. In the past, IOLs have been made of hard plastic, similar to a hard contact lens.

WILL THE IOL EVER NEED TO BE REPLACED?

IOL implants are well tolerated by the eye and are intended to last for a lifetime. Only rarely do the lenses need to be removed and replaced.

WHAT ARE THE RISKS OF IOL IMPLANTATION?

The success rate of cataract surgery with an IOL implant is excellent, resulting in improved vision in the majority of patients. A small number of patients may have problems, though they may not be caused by the IOL itself. Complications following cataract surgery may include:

- Infection;
- Bleeding;
- Swelling of the cornea;
- Detachment of the retina;
- Damage to the iris or pupil.

Be sure to discuss potential complications with your ophthalmologist before surgery.

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2014–2015

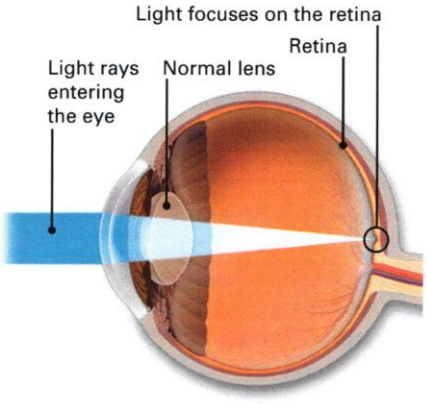
Cataract Surgery

What is cataract surgery?

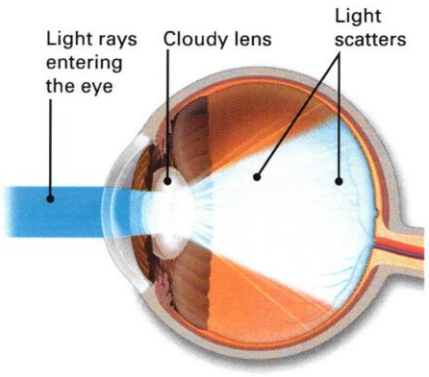
Cataract surgery is an operation to remove your eye's lens when it is cloudy.

The purpose of your lens is to bend (refract) light rays that come into the eye to help you see. Your own lens should be clear, but with a cataract it is cloudy. Having a cataract can be like looking through a foggy or dusty car windshield. Things may look blurry, hazy or less colorful.

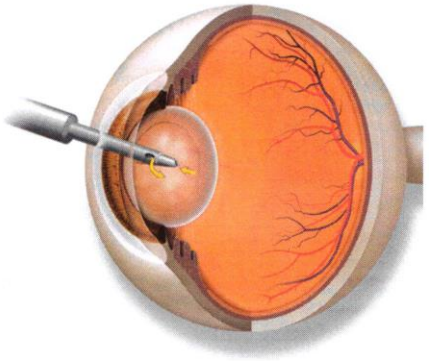
The only way to remove a cataract is with surgery. Your ophthalmologist will recommend removing a cataract when it keeps you from doing things you want or need to do.



Light rays entering an eye with a normal lens

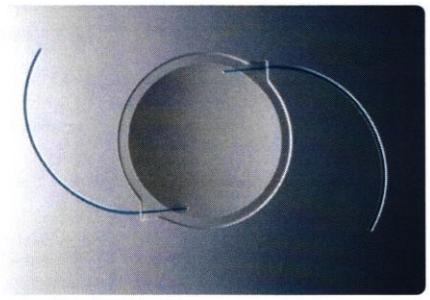


Light rays entering an eye with a cataract

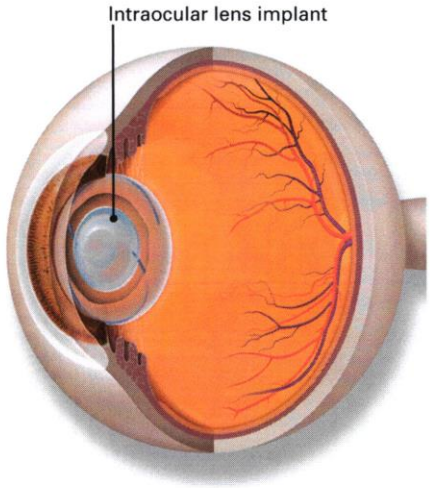


During cataract surgery, tiny instruments are used to break apart and remove the cloudy lens from the eye.

During cataract surgery, your cloudy natural lens is removed and replaced with a clear artificial lens. That lens is called an **intraocular lens** (IOL). Your ophthalmologist will talk with you about IOLs and how they work.



An intraocular lens (IOL) implant



In cataract surgery, the intraocular lens replaces the eye's natural lens.

What to expect with cataract surgery

Before surgery:

Your ophthalmologist will measure your eye to set the proper focusing power for your IOL. Also, you will be asked about any medicines you take. You might be asked not to take some of these medicines before surgery.

You will be prescribed eyedrop medicine to start using a few days before surgery. These medicines help prevent infection and reduce swelling during and after surgery.

The day of surgery:

Your ophthalmologist may ask you not to eat any solid food at least 6 hours before your surgery.

Cataract removal surgery may be done in an outpatient surgery center, at the ophthalmologist's office, or in a hospital. Here is what will happen:

- Your eye will be numbed with eye drops. You may also be given a medicine to help you relax.
- You will be awake during surgery. You may see light and movement during the procedure, but you will not see what the doctor is doing to your eye.
- Your eye surgeon will make tiny incisions (cuts) near the edge of your cornea (the clear covering on the front of your eye). The surgeon uses these incisions to reach the lens in your eye. Using very small instruments, he or she will break up the lens with the cataract and remove it. Then your new lens is inserted into place.

To Our Patient:

Thank you for choosing Atlee Gleaton Eye Care for your cataract surgery. Since 1971, we have provided world-class eye care to the greater capital region. Your sight is our priority! Our doctors and staff are committed to offering you state-of-the-art technology, surgical excellence and personalized service.

This packet will familiarize you with cataract surgery and your options to achieve the best vision possible. Your cataract will be removed in an outpatient procedure through an incision so small that sutures are usually not necessary. The lens of your eye will be replaced with an intraocular lens implant. Various types of implants are available to meet your visual needs. We offer toric lenses to decrease astigmatism and multifocal lenses to decrease your dependence on glasses, as well as conventional monofocal lenses.

Pamphlets on cataract surgery and intraocular lens types are provided. Also enclosed is a series of questions to help you decide which implant type may be best for you and your lifestyle. Please read the informed consent document that will give you detailed information about cataract surgery and your options. It is not necessary to complete this form before your appointment with the surgical coordinator. You will have the opportunity to ask any questions you may have at your pre-operative appointment.

Please bring the entire packet with you for your pre-operative appointment. If you are currently taking or have ever taken a class of medications called alpha-blockers for urinary difficulties, please let us know at your visit. Soft contact lenses must be left out of both eyes for 2 weeks before your pre-operative visit to ensure high-quality measurements. Gas permeable lenses must be kept out of both eyes for 3 weeks.

Please call the surgical coordinator at our office if you think you are interested in either a toric or multifocal lens so that the additional testing these lenses require can be provided at the time of your pre-operative appointment. We will gladly provide the out-of-pocket cost for these lens types at your request.

We invite you to bring a friend or family member along for your pre-operative visit. A video on cataract surgery and implant options is also available from our office at your request.

Please call with any questions and we look forward to serving you.

Maroulla Gleaton, MD

Linda Schumacher-Feero, MD

Procedure Type	Patient Goals	Cost Per Eye	Payment to Atlee Gleaton Eye Care (portion of total cost)	Payment to Hospital (portion of total cost)
Multifocal or Toric Multifocal Implant	Best distance and near	$1,795	$500	$1,295
Toric Implant	Best distance	$1,295	$500	$795