

# Guide To Selecting Your Intraocular Lens



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## Intraocular Lens Implants

Should you decide to have cataract surgery, you will receive an intraocular lens implant (IOL) at the time of your operation. There are several types of intraocular lenses; some of them are fairly simple and others are pretty sophisticated. Some just compensate for the cataract, others for astigmatism, and still others for presbyopia. In general, if you want to use the cataract operation as an opportunity to reduce your dependency on eyeglasses, you should consider purchasing an upgrade to one of the Premium intraocular lenses. (Premium lenses are not covered by health insurance.)

This booklet will help you decide which type of implant will help you the most.

During your consultation we will help you select the best implant for your needs, lifestyle and personality.

### Types of Intraocular Lens Implants

#### Basic Monofocal Lens Implant

- This is a simple monofocal (single focus) lens that makes no attempt to correct any optical problem with your eye other than the cataract.
- Basic Lens Implants are covered by your insurance.

#### Premium Lens Implants

- These have more sophisticated optics and are designed to correct your vision more completely.
- You have to pay extra for a Premium Lens Implant.

## Type 1: The Basic Monofocal Lens Implant

A Basic Intraocular Lens is a fixed lens (it doesn't move) that is designed to deliver improved vision at just one distance. The potential drawback is that after surgery you will probably need to wear glasses, even if you didn't wear glasses before surgery. The advantage of the Basic Monofocal Lens is that it is covered by insurance plans.

### The Basic Lens

PROs	CONS
<ul style="list-style-type: none"><li>• Excellent if you want to wear eyeglasses after surgery</li><li>• Requires no period of adjustment</li><li>• Covered by insurance</li></ul>	<ul style="list-style-type: none"><li>• Does not correct astigmatism</li><li>• Does not correct presbyopia</li><li>• At least 90% of patients have to wear eyeglasses, at least part of the time, with this lens</li></ul>

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## Type 2: The Premium Lens Implants

There are three categories of Premium Lens Surgery

1. Astigmatism-Correcting Surgery
2. Presbyopia-Correction Surgery
3. BiOptics, for correcting Astigmatism and Presbyopia

## Category 1 - Astigmatism-Correcting Surgery (Toric Lens Implant)

Astigmatism is a common condition that can make your vision distorted. The distortion is because the eye's cornea or lens has an irregular shape, usually slightly oval instead of the preferred round shape.

Astigmatism is a very common eye condition and does not always require corrective lenses. Many people have some degree of astigmatism. Happily, a minor level of astigmatism is considered normal and requires no correction. If a person with a minor level of astigmatism needed cataract surgery a Toric lens implant would probably not be necessary.

Patients with moderate or high degrees of astigmatism almost always experience blurred or distorted vision unless the astigmatism is corrected. This is done with corrective lenses prior to cataract surgery. When you have a cataract operation you can choose to have your astigmatism permanently improved by having a Toric Lens Implant.

A Toric IOL restores focus to the eye by correcting preexisting astigmatism using the same technology that has been successfully used in contact lenses. A Toric IOL is proven to have a clinically significant reduction in astigmatism as compared to a non-Toric IOL during cataract surgery in patients with astigmatism.

### TORIC IOL

#### PROs

- Clinically proven to significantly reduce astigmatism and improve vision as compared to a non-Toric IOL

#### CONs

- It can rotate out of position and have to be nudged back into place. This occurs rarely (less than one out of 100.)

## Category 2 - Presbyopia-Correcting Surgery

Presbyopia is normal. You probably noticed in your forties that you started to lose some of your up-close vision and had to start wearing reading glasses or bifocals. That's what presbyopia is, the natural age-related loss of your capacity to focus from far to near and back again. There are two types of Presbyopia-Correcting Lens Implants, the Accommodating Lens Implant and the Multifocal Lens Implants.

### Type 1 - The Accommodating Lens Implant

An Accommodating Lens Implant not only treats your cataract but can also reduce your dependence on glasses. It does so by recreating accommodation similar to your eye's natural lens. It can reduce or eliminate glasses for most activities, including reading a book, working on the computer, and driving a car.

An Accommodating Lens "flexes" within the eye using the eye's natural muscles to focus on subjects at various distances, delivering a continuous range of vision: far, intermediate, and near. The lens can flex because it has tiny hinges to let the optic move back and forth as you unconsciously focus from distance to near.

Because your muscle was not used much after you developed presbyopia, it can take some time for it to function again. Typically patients see in the distance the first week after the operation, pick up the intermediate range during the second week, and begin reading after the third week.

More than 90% of patients who have an Accommodating Lens reduce their dependency on eyeglasses to the point that they never or only occasionally wear them.

### The Accommodating Lens

#### PROs

- It takes advantage of the natural focusing ability of your eye
- It lets you seamlessly focus from far to intermediate to near
- No adjustment period is necessary

#### CONs

- How much near vision you get varies and depends on your eye's ability to flex the lens
- Scar tissue can prevent the lens from flexing
- If you read for a long time your eye muscle can get tired. You may be more comfortable using mild reading glasses to relax the eye.

## Type 2 - The Multifocal Lens Implant

Multifocal Lens Implants are essentially tiny implantable bifocals. They are manufactured with very fine rings that divide the lens into multiple focus points so you can see well at a variety of distances. These are passive lenses, and do not require any muscular activity in your eye for focusing. From the moment you leave the operating room you have the ability to see both far and near.

The multiple focus points are what make this lens so effective for reading, but the compromise is that they do require a period of adjustment as you learn to use this new optical system. There is a slightly greater change of having difficulty with halos or rings around lights (five in 100) and glare (five in 100) as compared to a Basic Monofocal Lens or an Accommodating Lens (one or two out of 100). Over time most people grow accustomed to these disturbances and cease to notice them. You may have some difficulty distinguishing an object from a dark background, especially in areas with less light. You should take extra care when driving at night.

More than 90% of patients who have an Accommodating Lens reduce their dependency on eyeglasses to the point that they never or only occasionally wear them.

### Multifocal Lens Implants

#### PROs

- Does not depend on muscle activity for its effect.
- Scarring does not permanently affect its function.
- You can begin using it immediately
- Compared to Accommodating Lens, these are usually more effective for very close work

#### CONs

- You may see persistent glare and halos, especially at night
- Glare and halos may make night driving difficult
- It transmits far and near images simultaneously, requiring your brain to adjust to them
- You may have difficulty seeing an object against a dark background

## BiOptics

If you have both astigmatism and presbyopia and you want to reduce your dependency on eyeglasses, you have one more option in BiOptics.

You should understand by now that the Toric lens corrects astigmatism, but doesn't correct presbyopia. The Accommodating and the Multifocal lenses correct presbyopia but they do not correct astigmatism.

BiOptics is a planned double treatment for double correction. First, we use an Accommodating or Multifocal Lens Implant to correct your presbyopia, but don't do anything about the astigmatism. Then we wait three to six months to let the eye stabilize. You may need to wear eyeglasses during this time. Once the eye is stable we perform the second stage, a planned Laser Vision Correction procedure to correct the residual astigmatism.

## Results

A Toric IOL is proven to have a clinically significant reduction in astigmatism and improvement in unaided vision as compared to a non-Toric IOL after cataract surgery in patients with astigmatism.

Presbyopia-Correcting IOLs (Accommodating and Multifocal) have been shown to reduce dependency on eyeglasses significantly, with slightly more than 90% of patients using eyeglasses either never or only occasionally. About 95% of patients indicate that if they had to do it over again, they would once again select a presbyopia-correcting IOL.