

# Custom Cataract Surgery

Laser & Lens Options



# What is a Cataract?

More than fifty percent of people over the age of 60, and many younger than that, suffer from cataracts. In fact, cataracts are so common it is said that everyone will develop a cataract if they live long enough. A cataract is a progressive clouding of the eye's natural lens that interferes with light passing through to the retina.

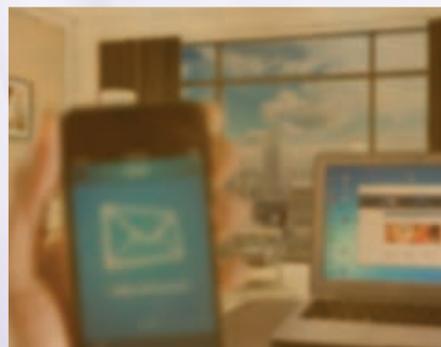
Sufferers usually describe the condition as being similar to looking through a waterfall or a piece of wax paper, with a gradual blurring or distortion of vision.

**OVER  
80,000 CATARACT  
PROCEDURES  
PERFORMED**

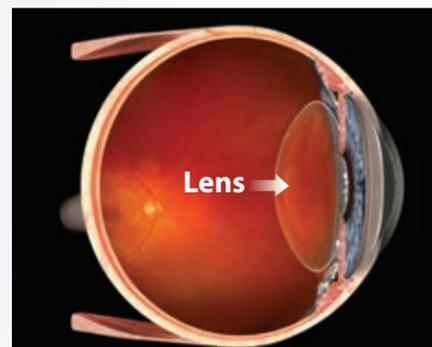
Reading may become more difficult, and driving a car can actually become dangerous. Cataract sufferers may also be troubled by a bothersome glare, halos around lights, or even double vision. And, as the cataract becomes worse, frequent changes in eyeglass prescriptions may become necessary.

Currently, there is no medical treatment to reverse or prevent the development of cataracts. Once they form, there is only one way to achieve clear vision again, and that is to physically remove the cataract or cloudy lens from inside the eye and replace it with an artificial intraocular lens (IOL).

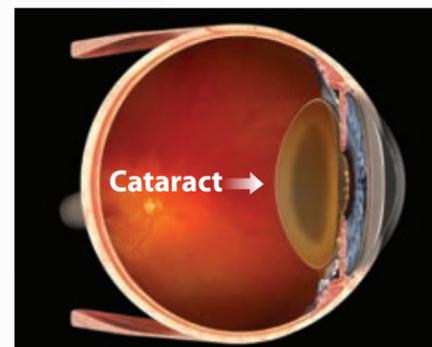
In your parents' or grandparents' day, cataract surgery was considered quite risky, required a lengthy hospital stay, and was usually postponed for as long as possible. Today, cataract surgery is one of the most commonly performed surgeries in the world. Advancements in technology and research have helped transform cataract surgery into a more comfortable outpatient procedure that allows patients to avoid the inconvenience and expense of staying in a hospital. Indeed, most patients see well enough to drive as quickly as the day after surgery.



Early Symptoms of Cataracts



Natural Clear Lens



Natural Lens with Cataract

# Standard Cataract Surgery

Standard cataract surgery has advanced dramatically over the past decades. In most cases the cataract is extracted through a tiny incision and a single focus intraocular lens (IOL) is inserted to replace the cloudy natural lens. Standard IOLs used by The Eye Institute of Utah have UVA/UVB protection built into the lenses to continue protecting your retina after surgery.

We perform the procedure on each eye on separate days, but often within a week or two of each other. While the procedure itself only takes 10-20 minutes, you should plan on being at the surgical facility for up to 3 hours. During this time, we will dilate your surgical eye and prepare for your procedure. After your procedure, post-operative instructions will be reviewed with you and the responsible adult who accompanied you.

In most cases, you will not have any sutures and should be able to drive the very next day. Over the next few weeks, you will be required to use prescription eye drops to help prevent infection and help the eye heal from surgery. During this time, you should expect your vision to improve but you may also experience slight fluctuations while your eye heals. After standard cataract surgery, your vision should be much clearer but you may need to wear glasses for reading and some other activities, especially if you have astigmatism.

# Custom Cataract Surgery

Standard cataract surgery is a wonderfully successful procedure, however there are options for patients wishing to have less dependence on glasses, contacts or bifocals. For most cataract patients, life without glasses is something they either experienced when they were very young or they just dreamed about for most of their lives. Custom Cataract Surgery surpasses standard cataract surgery by including advanced testing, and providing the added benefit of using advanced technology IOLs to enhance your vision and provide you with decreased dependence on glasses.

Custom Cataract Surgery goes beyond standard cataract surgery and primarily addresses presbyopia and astigmatism. These are the conditions that remain even after standard cataract surgery. Custom Cataract Surgery is also a great option for those who have had previous LASIK, PRK or RK surgery. It is important to note that cataract surgery is covered by most insurance companies and Medicare, but they do not cover the testing or options for Custom Cataract Surgery explained in this booklet.

The vast majority of patients who choose Custom Cataract Surgery can read a book, work on a computer, drive a car – day and night – and play golf or tennis with increased freedom from glasses. Learning that you have a cataract can cause concern, but once you understand how your vision may be improved, you may actually have reason to be excited about the possibilities. The Eye Institute of Utah now offers a variety of Custom Cataract Surgery options. The following packages are available depending on your diagnosis and vision preferences. You should discuss these options with your surgeon:

**1**

**CUSTOM VISION**

**2**

**CUSTOM VISION FOR  
ASTIGMATISM**

**3**

**CUSTOM VISION  
FOR PRESBYOPIA**

**4**

**CUSTOM VISION WITH A  
LIGHT ADJUSTABLE LENS**

## What is Astigmatism?

Nearsightedness and farsightedness are common forms of visual distortions that we are familiar with. Astigmatism is another type of visual distortion that is often present with nearsightedness and farsightedness. All three of these distortions can usually be corrected at the same time with glasses or contact lenses.

Astigmatism is typically caused by the cornea (window of the eye) being shaped more like a football than a basketball. This causes images to focus at different points on the retina, resulting in blurry or double vision. Astigmatism can also be caused by similar irregularities in the shape of the natural lens inside the eye.

Several tools are now available to correct astigmatism including the use of a Toric IOL and/or the application of limbal relaxing incisions, otherwise known as LRIs. By choosing the Custom Vision Package for Astigmatism, or the Light Adjustable Lens Package, we can use all or a combination of these tools and techniques to correct your astigmatism.

### Custom Vision Package for Astigmatism

## What is Presbyopia?

Presbyopia is a condition most people over the age of 45 experience that results in difficulty seeing up close without the aid of bifocals, trifocals, or reading glasses. This age-related condition is believed to be caused by a hardening of the lens inside the eye, making it difficult for the eye's muscles to change its focus. Many people call presbyopia "long arm" disease because they find themselves having to push reading materials further away so they can focus.

Likewise, patients who undergo cataract surgery, at any age, who receive standard IOLs will realize "instant presbyopia" because standard IOLs focus at only one distance. These patients will likely still need glasses for intermediate and near vision. However, by choosing the Custom Cataract Package for Presbyopia, patients will likely realize decreased dependence on glasses, contacts, or bifocals at all distances.

This means that you can read, and see clearly in the distance, with little or no dependence on bifocals, trifocals, or contact lenses. Depending on the technological features of these IOLs, they may be described as "Accommodating IOLs," "Multifocal IOLs," "Trifocal IOLs", or "Extended Depth of Focus IOLs." Each of these lenses have benefits and compromises. Which one is best for you depends on the unique characteristics of your eye as well as your lifestyle needs. You and your surgeon will decide together which lens is more advantageous for you. There are now IOL options that can correct for both astigmatism and presbyopia at the time of your cataract surgery.

### Custom Vision Package for Presbyopia

## Which is Right for You?

It is likely that these Custom Cataract Surgery options could reduce or eliminate your dependence on glasses or contacts. Every eye is different, and everyone has different visual needs.

Your first step is to have a thorough eye examination to determine if you are ready for cataract surgery. Together, you and your doctor will determine which option is best suited for your eye condition and lifestyle.



# LenSx® Custom Cataract Laser

Until now, standard cataract procedures and custom cataract surgeries were performed manually where the surgeon used a blade for all of the incisions and other portions of the procedure. A manual procedure allows for a margin of error that can affect outcomes. With the introduction of the first FDA cleared Custom Cataract laser, the LenSx® femtosecond cataract laser, surgeons at The Eye Institute of Utah have the ability to create incisions and reduce astigmatism with a laser when performing custom cataract surgery.

**The LenSx Laser can be used in the Astigmatism and Presbyopia Packages**

These incisions are more accurate and precise, thus eliminating some of the variables that have complicated cataract surgery results in the past. Recent results show that the laser is up to 10x more precise<sup>1</sup> than manual techniques for portions of the cataract surgical procedure. By being more accurate and precise, visual outcomes are more predictable.<sup>2</sup>



# ORA System® with VerifEye™

During standard cataract surgery, various measurements are taken prior to cataract surgery in order to select the IOL or intraocular lens power, but there can be unknown surgical factors when making the proper lens selection. Surgeons at The Eye Institute of Utah now utilize a specialized surgical confirmation tool which helps customize your vision even further during all Custom Cataract Surgery procedures performed at The Surgicare Center of Utah. The ORA (Optiwave Refractive Analysis) intraoperative aberrometry system provides real-time analysis of your eye during surgery.

**All Custom Cataract Surgery Packages<sup>3</sup> include the use of ORA with VerifEye**

With the use of ORA with VerifEye™ during your Custom Cataract Surgery, we can ensure your procedure will be optimized and the analysis will provide our surgeons with information that helps to confirm the proper correction for optimal visual outcomes. It's like using a GPS system during your surgery. For patients with astigmatism, those who have had prior LASIK or PRK, or those who are having a presbyopia-correcting lens implanted, ORA with VerifEye™ can improve the accuracy to help reduce the need for glasses after your procedure.

## Custom Cataract Laser Benefits

The LenSx® Custom Cataract Laser gives us the ability to reduce astigmatism without blades with the precision of a laser. Microscopic corneal incisions are made using the laser to reduce mild astigmatism at the time of Custom Cataract Surgery.

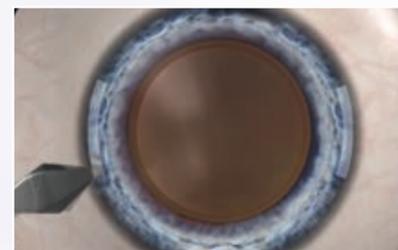
Your surgeon may recommend the use of the LenSx® Custom Cataract Laser to manage your astigmatism with one of the Custom Vision Packages.



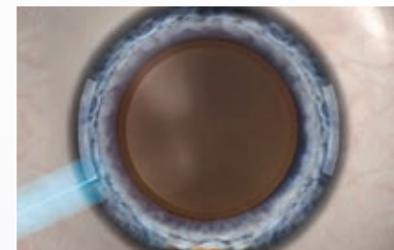
After Cataract Surgery without Astigmatism Corrected



After Cataract Surgery with Astigmatism Corrected



Astigmatism Corrected with a Blade



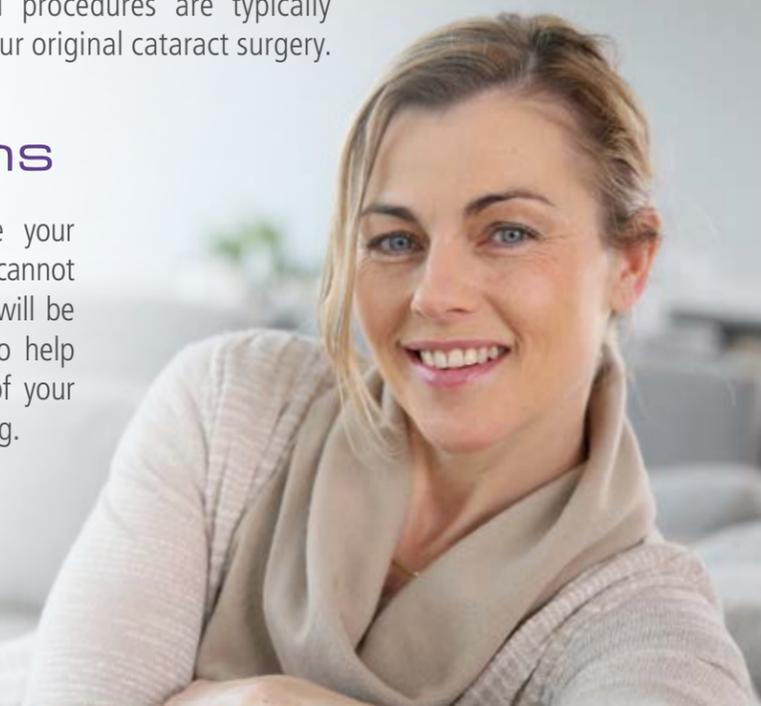
Astigmatism Corrected with Laser

## After Cataract Surgery

While most people enjoy clearer vision after surgery, some patients develop a mild condition called posterior capsular opacification (PCO or secondary cataract) after surgery. A YAG laser treatment, which takes a few minutes, easily removes the PCO and any secondary cataract. These additional procedures are typically covered by insurance and are not considered part of your original cataract surgery.

## Realistic Expectations

The goal of Custom Cataract Surgery is to reduce your dependence on glasses, contacts, or bifocals. Your doctor cannot guarantee that you will never wear glasses again. You will be given additional information about these procedures to help you make an informed decision. Be sure to have all of your questions answered to your satisfaction before proceeding.





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1. Nagy Z, Takacs A, Filkorn T, Sarayba M. Initial clinical evaluation of an intraocular femtosecond laser in cataract surgery. J Refract Surg. 2009; 25(12):1053-1060.
2. The Annual Meeting of ISRS. October 21 and 22, 2011. Orange County Convention Center. Comparison of Effective Lens Position and Refractive Outcome: Femtosecond Laser vs. Manual Capsulotomy. Robert J. Cionni, M.D.
3. The Light Adjustable Lens package does not include ORA but it does include a warranty for 1 year.

The Eye Institute of Utah, Inc. complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability, or sex.