



**FACTS YOU NEED TO KNOW ABOUT *ADVANCED  
CUSTOMVUE* LASER ASSISTED IN-SITU  
KERATOMILEUSIS (LASIK) LASER TREATMENT**

**Patient Information Booklet**

**For the reduction or elimination of myopia (nearsightedness)  
up to -11.00 D, with astigmatism up to -5.00 D**

**Please read this entire booklet. Discuss its contents with your  
doctor so that all your questions are answered to your  
satisfaction. Ask any questions you may have before you  
agree to the surgery.**

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# INTRODUCTION

Your doctor and Abbott Medical Optics Inc. (**AMO**) provide the information in this booklet to help you decide whether to have an **Advanced CustomVue** LASIK treatment. **Advanced CustomVue** LASIK (laser assisted *in situ* keratomileusis) may be used to correct, or reduce myopia (nearsightedness) with and without astigmatism.

Some other ways to correct your vision include wearing glasses or contact lenses. Other surgical methods include implantable lens surgery and other types of LASIK that do not use wavefront technology. These include LASIK using traditional eye prescriptions or corneal topography. Additional alternatives include radial keratotomy (RK) and photorefractive keratectomy (PRK).

Please read this booklet completely. Discuss any questions with your doctor before you decide if **Advanced CustomVue** LASIK is right for you. Only an eye care professional trained in laser vision correction can determine whether you are a suitable candidate.

## How Refractive (Wavefront) Errors Affect Your Vision

The cornea and lens of the eye focus rays of light by bending (or refracting) them to focus an image on the retina at the back of the eye, much like a camera focuses images onto film.

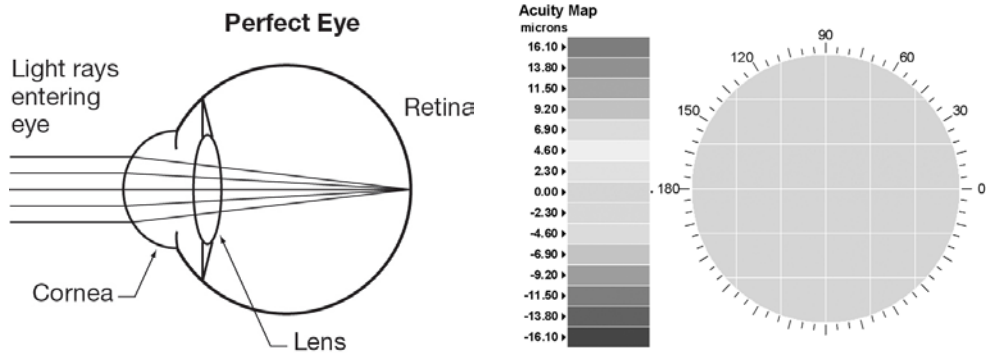


Figure 1

Perfect Eye

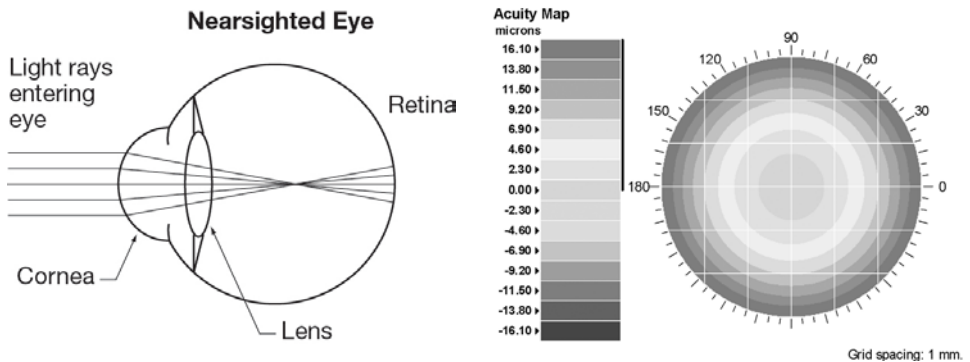
**Figure 1: On the left is a diagram showing how the eye focuses light rays to create a sharp image on the retina. The corresponding wavefront map of an ideal eye is displayed on the right.**

The above figure shows an ideal eye with no focusing imperfections. All of the rays of light traveling through the eye focus to a single point on the retina at the back of the eye.

In reality, all eyes have some degree of imperfections. One way to measure the focusing errors of an eye is to measure the *wavefront* of the eye. This can be done with an instrument like the **iDesign Advanced WaveScan Studio** System. The wavefront map shows the imperfections of the eye. The **iDesign Advanced WaveScan Studio** System measures the wavefront errors by measuring light as it reflects out of the eye with a camera sensor.

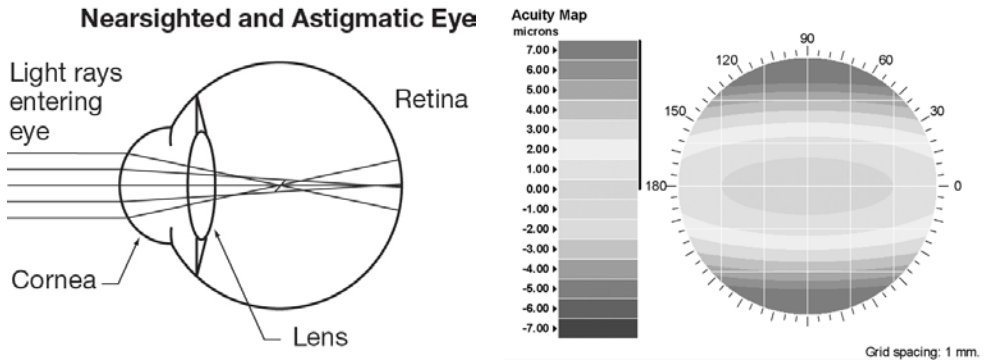
The wavefront of a perfect eye has a flat surface because all of the light rays travel uniformly through the eye, as shown in figure 1. The wavefront of an eye with imperfections is curved or wavy because some light rays reach the retina before others, and some rays strike different locations on the retina than others. Wavefront errors include both simple and complex focusing errors. The simple wavefront errors, which can be corrected with curved lenses (e.g., glasses or contact lenses,) are also called *refractive errors* and include *myopia and astigmatism*.

Myopia (nearsightedness) usually starts in childhood and gets progressively worse through adolescence. It usually stops changing by the late teens, but it can sometimes continue to get worse into the mid-twenties. Nearsighted (or myopic) eyes bend light too much so that light rays focus to a single spot in front of the retina. Things that are far away look blurry because the rays are spread apart instead of focused when they strike the retina.

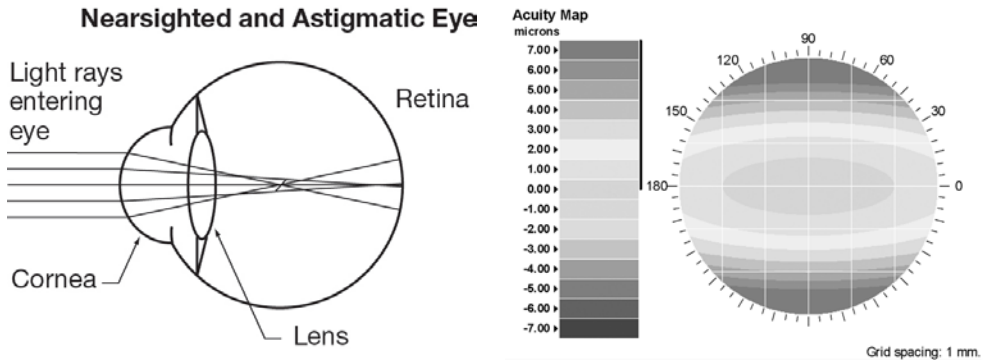


**Figure 2:** On the left is a diagram of a nearsighted eye showing the light rays focusing in front of the retina. The corresponding wavefront of a myopic eye shows a curved wavefront surface.

Astigmatism causes the rays of light entering through different parts of the eye to focus unequally so that they do not ever form a single spot. Some rays may focus on the retina, but other rays focus in front of the retina. Things look blurry because images are not ever focused clearly on the retina.



**Figure 3 Nearsighted Eye with Astigmatism**



**Figure 3: On the left is a diagram of an astigmatic eye showing light rays that do not ever come to a focus at one point. The corresponding wavefront map for this eye shows a surface that is curved more in one direction than the other.**

The **iDesign Advanced WaveScan Studio** System can also measure complex focusing errors. On the left in Figure 4 is a map of all wavefront errors and on the right is a map showing just the complex errors. The combination of simple and complex wavefront errors in any eye is unique. The **Advanced CustomVue** treatment is “custom” because it includes information from the **iDesign Advanced WaveScan Studio** System that is more individualized than what a doctor uses to program a non-custom treatment.

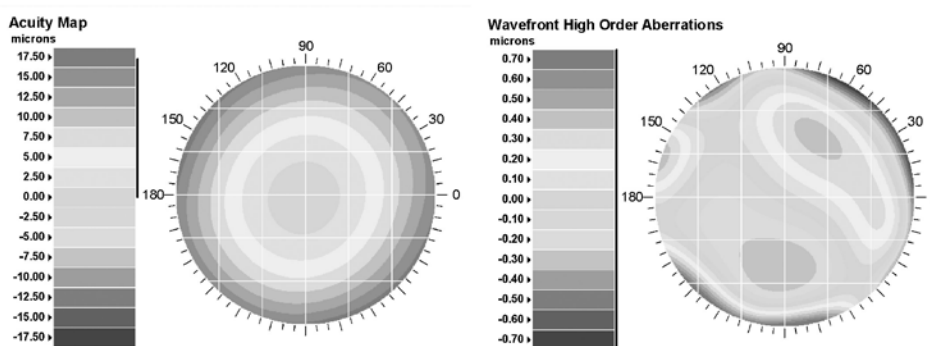


Figure 4

Figure 4: On the left is a wavefront map of all wavefront errors and on the right is a wavefront map showing only the complex errors.

## The **AMO STAR S4 IR** Excimer Laser

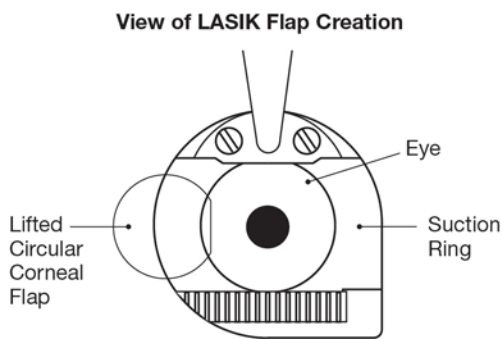
The excimer laser system produces a beam of cool ultraviolet light. The doctor programs your information into a computer that controls the laser. The laser produces a series of rapid pulses that remove small and precise amounts of corneal tissue. Excimer laser light does not penetrate into the eye and leaves other eye structures (iris, lens, retina) untouched.

The laser system also contains an auto-centering eye tracking system which will align the treatment and automatically compensate for many of your eye movements during the **Advanced CustomVue** treatment. And the Iris Registration feature of the **STAR S4 IR** system adjusts for rotation (twisting) of your eye between time of wavefront measurement and start of the treatment.



## How the *Advanced CustomVue* LASIK Procedure Works

LASIK is a laser surgery technique used to correct refractive errors of the eye including nearsightedness and astigmatism. Before starting the laser, the doctor creates a flap on your cornea using either a different type of laser or an automatic cutting device that uses a blade (microkeratome). A suction ring is placed on the eye and then a circular flap of tissue is created from the surface of the cornea. After the flap is cut, the doctor lifts the flap and folds it out of the way of the laser. After the laser finishes, the doctor repositions the flap.



View (from above) of suction ring on the eye.

**Figure 5**

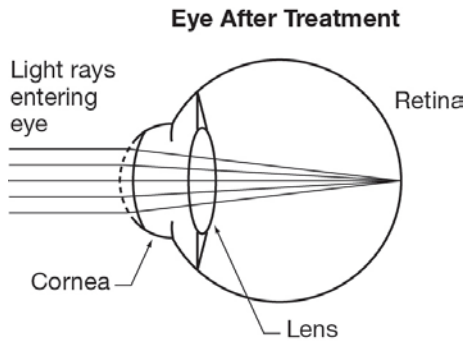


Diagram of an eye after treatment showing where tissue is removed

**Figure 6**

To correct nearsightedness, the cornea needs to be flatter, so the laser removes more tissue from the center than the edge. When there is astigmatism, the eye is flattened more along one axis (e.g., vertical) than in the other (e.g., horizontal). The doctor creates a treatment plan, unique to your eye, from the *iDesign Advanced WaveScan Studio* system to guide the laser. The laser removes tissue from the eye according to the treatment plan.

## The iDesign Advanced WaveScan Studio System

Before your **Advanced CustomVue** LASIK treatment is programmed into the laser, you must have one or more measurements taken by the **iDesign Advanced WaveScan Studio (AWS)** System. The **iDesign AWS** System is a tabletop system that measures your eyes with specialized cameras. You will sit in front of the **iDesign AWS** System and look at a light through an opening in the system while it scans your eye. Your doctor may take more than one measurement and then choose the most appropriate measurement to use as the basis for the **Advanced CustomVue** LASIK treatment. The doctor will also take other routine measurements of your vision to help design your treatment.

## BENEFITS

**Advanced CustomVue** LASIK treatment for myopia can correct up to -11 diopters (D) of nearsightedness with up to -5 diopters of astigmatism. If you have nearsightedness within this range, **Advanced CustomVue** LASIK treatment may help you to see clearly distant objects without eyeglasses or contact lenses.

## Clinical Study to Evaluate Benefits

A clinical study was conducted to evaluate the benefits and risks of **Advanced CustomVue** LASIK. This study involved 334 treated eyes of 170 patients. This study was initiated at 12 U.S. centers in August 2012. The last patient in this study was treated in October 2013. The study results shown in this booklet include all the available reported outcomes on these patients through March 2014. Each table lists the number of eyes or study patients (n) for which data was available at the reported time point.

## **STUDY PATIENT DEMOGRAPHICS**

Table 1 lists the age, gender, race, and contact lens history of patients in this study.

**Table 1 Demographics of 170 Patients**

<b>Age</b>	Average	32 ± 8 years	
	Range	18 to 58 years	
<b>Gender</b>	Male	n= 93	55%
	Female	n= 77	45%
<b>Race</b>	Caucasian	n= 113	66%
	Asian/ Pacific Islander	n= 13	8%
	African American	n= 5	3%
	Hispanic/ Other*	n= 39	23%
<b>Contact Lens History</b>	None	n= 49	29%
	Soft	n= 71	42%
	Rigid/ Toric	n= 50	29%
*“Other” classifications of race include: Caucasian/Asian, Caucasian/Hispanic, Eurasian, Hispanic/Italian, and Indian			

## **VISUAL ACUITY WITHOUT GLASSES AFTER TREATMENT**

Visual acuity measures the sharpness of vision using a letter chart. Table 2 shows that six months after the treatment, 83% of study patients saw 20/20 or better *without* glasses while 98% of study patients saw 20/40 or better. A visual acuity of 20/20 is considered normal vision and 20/16 is considered better than normal vision.

A visual acuity of 20/40 or better is usually required for you to drive without any glasses or contact lenses.

**Table 2 Visual Acuity Without Glasses After Treatment**

<b>Time After Treatment</b>	<b>1 Month</b>	<b>3 Months</b>	<b>6 Months</b>	<b>9 Months</b>	<b>12 Months</b>
	<b>(n=334)</b>	<b>(n=334)</b>	<b>(n=334)</b>	<b>(n=320)</b>	<b>(n=290)</b>
20/16 or better	64%	62%	62%	63%	61%
20/20 or better	88%	85%	83%	84%	80%
20/25 or better	97%	94%	93%	91%	91%
20/40 or better	99%	99%	98%	98%	97%

## **VISUAL ACUITY WITHOUT GLASSES AFTER TREATMENT AND WITH GLASSES BEFORE TREATMENT**

Table 3 shows the number of lines on the eye chart that patients could see before and after surgery. At six months, 67% of the eyes saw as well as or better *without* glasses after **Advanced CustomVue** LASIK treatment as *with* glasses before treatment.

**Table 3 Visual Acuity Without Glasses After Treatment Compared to With Glasses Before Treatment, N = 334 Eyes**

Change in Lines of Vision	1 Month	3 Months	6 Months	9 Months	12 Months
	(n=334)	(n=334)	(n=334)	(n=320)	(n=290)
More than 2 lines better	0%	<1%	0%	<1%	0%
2 lines better	2%	3%	3%	4%	2%
1 line better	26%	28%	26%	24%	28%
No change	46%	38%	37%	42%	35%
1 line worse	18%	20%	21%	18%	18%
2 lines worse	5%	5%	5%	4%	6%
More than 2 lines worse	3%	5%	7%	8%	10%

## **PATIENT REPORTED VISUAL WELLBEING COMPARISON**

Patients were asked to report problems that involved their vision or their feelings about the vision correction before and after the **Advanced CustomVue** LASIK treatment. Table 4 shows the average score for each area measured before surgery and 6 months after surgery on a scale of 0 to 100 with 100 representing the best possible score. At 6 months, patients reported significant improvements in all measured aspects of visual functioning.

**Table 4 Average Visual Function and Wellbeing Scores Before Treatment Compared to Scores After Treatment, N = 170 patients**

	<b>Average Score Before Surgery</b>	<b>Average Score 6 Months After Surgery</b>
<b>Clarity of Vision</b>	80	92
<b>Expectations</b>	7	76
<b>Near Vision</b>	81	94
<b>Far Vision</b>	80	93
<b>Changes Throughout the Day</b>	79	92
<b>Activity Limitations</b>	63	98
<b>Glare</b>	78	85
<b>Symptoms</b>	84	92
<b>Dependence on Glasses or Contact Lenses</b>	38	94
<b>Worry about Vision</b>	42	81
<b>Less than Optimal Correction</b>	89	99
<b>Appearance</b>	37	91
<b>Satisfaction with Correction</b>	58	92

**Table 5 Average Far Vision Scores Before Treatment Compared to Far Vision Scores After Treatment, N = 170 patients**

	Average Score Before Surgery	Average Score 6 Months After Surgery
Difficulty judging distances	85	98
Difficulty seeing things off to the side	84	98
Difficulty getting used to the dark	77	89
Difficulty driving at night	81	91
Difficulty driving at night in difficult conditions	74	88

## RISKS

As with any surgical procedure there are risks associated with **Advanced CustomVue** treatments. It is important to discuss these risks with your doctor before you make the decision to have the surgery. If the results of the surgery are not satisfactory, you may need to have additional laser treatment in the same eye. Your doctor may perform **Advanced CustomVue** LASIK for both eyes. However, sometimes it is better to have this procedure done on only one eye.

Talk with your doctor about whether it would be better to treat one or both of your eyes.

Some risks are related to the creation of the corneal flap. Corneal flap complications include but are not limited to: cutting an incomplete, irregular flap or free flap; misalignment of the flap; and perforation of the cornea. Corneal flap complications range in severity from those that simply require the treatment to be postponed for several months, to those which create corneal irregularities resulting in permanently blurred vision.

**IMPORTANT:**

**You may need reading glasses after laser surgery even if you did not wear them before. Your vision may not be perfect, and you may need to wear glasses or contact lenses for some activities even after laser vision correction.**

**CONTRAINDICATIONS — When Can't You Have LASIK?**

If you have any of the following situations or conditions you should not have LASIK because the risk is greater than the benefit:

- You are pregnant or nursing, because these conditions may cause temporary and unpredictable changes in your cornea and a LASIK treatment may improperly change the shape of your cornea.
- You have collagen vascular (e.g., rheumatoid arthritis), autoimmune (e.g., lupus), or immunodeficiency diseases (e.g., AIDS), because these conditions affect the body's ability to heal.
- You show signs of corneal abnormalities including keratoconus, abnormal corneal topography, epithelial basement membrane disease (EBMD) or degenerations of the structure of the cornea. This condition can lead to serious corneal problems during and after LASIK surgery. It may result in need for additional surgery and may result in poor vision after LASIK. Your corneas are thin. If your corneas are too thin to allow your doctor to cut a proper flap in the LASIK procedure, you can't have LASIK because it is necessary to have a flap.
- You have symptoms of significant dry eye. If you have severely dry eyes, LASIK may increase the dryness. This may or may not go away. Severe eye dryness may delay healing of the flap or interfere with the surface of the eye after surgery. It may result in poor vision after LASIK.
- You have advanced glaucoma or uncontrolled diabetes. Talk to your eye care doctor before considering LASIK.



## What Warnings and Other Information Do You Need to Know About?

### WARNINGS

If you have any of the following conditions, you may have LASIK if your doctor evaluates the seriousness of your condition and believes the benefit of having LASIK is greater than the risk.

- Taking isotretinoin (Accutane<sup>1</sup>) treatment because this medication may affect the accuracy of the LASIK treatment or the way your cornea heals after LASIK. This may result in poor vision after LASIK.
- Diabetes. If you have diabetes, LASIK may be risky for you because your diabetes may interfere with the healing of your eyes.
- History of *Herpes simplex* or *Herpes zoster* infection that has affected your eyes. If you have had a *Herpes simplex* or a *Herpes zoster* infection that affected your eyes, LASIK is more risky for you.
- Glaucoma, elevated IOP, ocular hypertension or being followed as a possible case of glaucoma (i.e., glaucoma suspect)
- Conditions or taking medications that affects your immune system
  - Taking antimetabolites for any medical conditions.
- Autoimmune connective tissue disease (e.g., scleroderma)
- Severe allergies. If you have severe allergies and take medicines for them, LASIK is more risky for you. In addition, please discuss with your surgeon if you rub your eyes often in association with allergy as this may cause problems with the healing of the flap created during LASIK procedure.

### PRECAUTIONS

The safety and effectiveness of wavefront-guided LASIK with the **STAR S4 IR** Laser for myopia with or without astigmatism has not been established in patients:

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<sup>1</sup> Accutane is a trademark of Hoffmann-La Roche, Inc.

- With the systemic use of amiodarone hydrochloride (Cordarone<sup>2</sup> - used for normalizing heart rhythm) because it may affect the accuracy of the LASIK treatment or the way your cornea heals after LASIK. This may result in poor vision after LASIK.
- With unstable eyes that have changed in their eyeglass or contact lens prescriptions more than 1.0 diopters in nearsightedness or astigmatism in the last 12 months, and your nearsightedness or astigmatism is getting worse. If your eyes are unstable, the right amount of treatment cannot be determined. This may result in poor vision after LASIK.
- With history of any eye diseases or abnormalities such as:
  - Corneal scars may affect the accuracy of the LASIK treatment or the way the cornea heals after LASIK resulting in poor vision outcomes.
  - If your eyes have an active disease, it is unknown whether LASIK is safe and effective under this condition.
  - History of glaucoma or have had pressure greater than 21 mmHg inside your eyes, because it is unknown whether LASIK is safe and effective for you.
- With history of injury or surgery to the center of the cornea (for example, surgery to correct vision such as RK, PRK, LASIK), or other surgery on the eye. If your eyes are injured or you have had surgery, it is unknown whether LASIK will weaken the cornea too much. This may result in poor vision after LASIK.
- Who use medicines that might make it harder for wounds to heal, such as Sumatriptan (Imitrex<sup>3</sup>) used for migraine headaches, because it is unknown whether LASIK is safe and effective for this condition.
- Who takes other medications. Let your doctor know if you are taking any prescription medicines or any medicines you bought without a prescription.
- Who are not within the studied age groups: Patients who are

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<sup>2</sup> Cordarone is a trademark of Sanofi-Synthelabo, Inc.

<sup>3</sup> Imitrex is a registered trademark of GlaxoSmithKline, Inc.

younger than 18 years of age, because it is unknown whether LASIK is safe and effective for you.

- Who have nearsightedness worse than 11 diopters or astigmatism worse than 5 diopters, because it is unknown whether LASIK is safe and effective for you.
- Over the long term (more than 1 year), because it is unknown whether LASIK is safe and effective for periods longer than 1 year.
- Prior LASIK or Refractive Surgery: it is unknown whether LASIK is safe and effective for repeating the LASIK procedure on the same eye.
- With undiagnosed dry eyes. Your doctor should also evaluate you for dry eyes before surgery. You may have dry eyes after LASIK surgery even if you did not have dry eyes before surgery.
- Who have a family history of degenerative corneal disease.
- Who have a history of inflammation of the iris or other structures in the eye (i.e., iritis, uveitis, or chronic inflammation the eye).
- Who have a history of crossed eyes (strabismus) or surgery for crossed eyes.
- Future measurements of your eye pressure can be affected by Advanced CustomVue LASIK. Tell your future eye doctor you've had LASIK surgery.
- Future cataract surgery can be affected by Advanced CustomVue LASIK. Tell your future eye doctor you've had LASIK surgery.
- Who engage in activities that could potentially damage the LASIK flap.
- Who take any medications that could affect the eye's ability to heal.
- Who take medications and have medical conditions that were excluded from the clinical trial on LASIK.
- Who have naturally occurring pupils smaller than 4.0 mm, as they are not eligible for treatment with Advanced CustomVue LASIK. The maximum pupil size allowed for treatment is 9.5 mm and there is no safety or effectiveness data for eyes with pupils larger than 8.7 mm.

## Clinical Study Results to Evaluate Risks

In the clinical study on **Advanced CustomVue** LASIK for myopia and myopic astigmatism, visual acuity *without* glasses improved for all eyes treated.

### VISUAL ACUITY WITH GLASSES AFTER TREATMENT

Table 5 shows that all patients in the clinical study saw 20/25 or better *with* glasses at all time points after treatment.

**Table 5 Visual Acuity With Glasses (Best Vision) After Treatment, N = 334 Eyes**

Visual Acuity	1 Month	3 Months	6 Months	9 Months	12 Months
	(n=334)	(n=334)	(n=334)	(n=320)	(n=290)
20/16 or better	86%	90%	91%	90%	92%
20/20 or better	99%	100%	100%	100%	100%
20/25 or better	100%	100%	100%	100%	100%

### CHANGE IN VISUAL ACUITY WITH GLASSES AFTER TREATMENT

Table 6 shows the change in visual acuity *with* glasses at 1, 3, 6, 9, and 12 months after treatment for the patients in the clinical study.

**Table 6 Change in Visual Acuity With Glasses After Treatment Compared to Before Treatment**

Time After Treatment	1 Month	3 Months	6 Months	9 Months	12 Months
	(n=334)	(n=334)	(n=334)	(n=320)	(n=290)
Eyes with gain of >2 lines	<1%	<1%	0%	1%	0%
Eyes with gain of 2 lines	5%	7%	8%	10%	6%
Eyes with gain of 1 line	43%	51%	48%	43%	49%
Eyes with no change	46%	39%	43%	43%	42%
Eyes with loss of 1 line	5%	4%	1%	3%	3%
Eyes with loss of 2 lines	<1%	0.0%	<1%	0%	0%
Eyes with loss of >2 lines	0%	0%	0%	0%	0%

## Contrast Sensitivity

Unlike normal vision tests that measure the ability to see a black and white eye chart, contrast sensitivity measures how well one sees in low contrast conditions such as driving in rain or fog. Most eyes (89-90%) in the study had the same or improved contrast sensitivity 6 months after surgery as they did before surgery. However some eyes (10-11%) had a significant loss in contrast sensitivity after surgery. Table 7 shows the change in contrast sensitivity 6 months after treatment.

**Table 7 Change in Contrast Sensitivity 6 Months after Treatment, N = 334 Eyes**

Condition	% of Eyes with a loss	% of Eyes with no change	% of Eyes with a gain
Bright conditions with no glare	11%	70%	19%
Dim conditions with no glare	10%	49%	41%
Dim conditions with glare	11%	43%	47%

## Adverse Events and Complications

The overall percentage of eyes in the clinical study that experienced adverse events and complications after **Advanced CustomVue** LASIK treatment, as shown in Table 8.

**Table 8 Adverse Events and Complications, N = 334 Eyes**

<b>Greater than or equal to 1% of eyes had:</b>	
Inflammation of the cornea under the flap	5.1%
Cells growing under the flap	5.1%
Swelling of the cornea	7.8%
Feeling of something in the eye	20.4%
Pain	12.0%
Glare <sup>a</sup>	2.4% <sup>a</sup>
<b>Less than or equal to 1% of eyes had:</b>	
Problems with creating or healing of the flap	0.6%
Severe dry eye	0.6%
Temporary decrease in vision	0.3%
Increase pressure in the eye	0.6%
Temporary severe light sensitivity	0.6%

<sup>a</sup> Glare was reported for both eyes together (not per eye).

## **PATIENT SYMPTOMS AFTER *ADVANCED CUSTOMVUE* TREATMENT**

Patients were asked to rank the severity of their symptoms both before and after the ***Advanced CustomVue*** treatment. Table 9 lists the patient symptoms reported as “Moderate”, “Marked” or “Severe” before treatment (Preop) on 334 eyes and at 6 months after treatment on 334 eyes.

**Table 9 Comparison of Severity of Symptoms Before and After Treatment  
N = 334 Eyes**

<b>Symptom</b>	<b>Preop</b>		<b>6 Months</b>	
	Moderate	Marked or Severe	Moderate	Marked or Severe
Pain	1%	0%	<1%	<1%
Tearing	1%	0%	0%	0%
Light Sensitivity	3%	0%	2%	<1%
Dryness	10%	2%	8%	1%
Fluctuation of vision	1%	0%	1%	1%
Day Glare	2%	0%	2%	1%
Night Glare	9%	3%	4%	2%
Ghosting	0%	0%	1%	0%
Halos*	9%	2%	7%	2%
Difficulty Driving at night	14%	2%	5%	2%

\*Halos are hazy rings around bright lights.

## **What to Expect Following Surgery**

### **The First Week:**

- Mild to moderate pain and discomfort may last for up to 3 days after surgery.
- Blurred vision and tearing will occur as the cornea heals.
- You will be sensitive to bright lights.

### **Two To Six Months**

- Your vision may fluctuate during this time period. You may also experience some dryness.



## Are You A Good Candidate For *Advanced CustomVue* LASIK?

If you are considering *Advanced CustomVue* LASIK, you must:

- Be at least 18 years of age and have myopia with or without astigmatism.
- Have healthy eyes that are free from eye disease or corneal abnormality (e.g., scar, infection, etc.).
- Have documented evidence that your refraction did not change by more than 1.0 diopter during the year before your preoperative examination.
- Be informed of LASIK risks and benefits as compared to other available treatments for nearsightedness with or without astigmatism.
- Be able to lie flat without difficulty.
- Be able to tolerate local or topical anesthesia.
- Be willing to sign an informed consent form as provided by your eye care professional.
- Be able to keep your eye accurately on the fixation light for the entire laser surgical procedure.

## Before Surgery

If you are interested in having laser vision correction, you will need to have a pre-surgical examination to determine if your eye is healthy and suitable for surgery. This will include a complete medical and eye history, and thorough examination of both eyes, including wavefront-based refractions and computerized mapping of your cornea.

### **WARNING:**

**If you wear contact lenses, it is very important to stop wearing them 2 – 4 weeks before examination and treatment in order for the doctor to obtain a stable eye measurement. Failure to do this might produce suboptimal surgical results.**

Before the surgery, please tell your doctor whether you take any medications or have any allergies. Also, talk with your doctor about eating or drinking immediately before the surgery. You should also arrange for transportation, since you must not drive immediately after the surgery. You may resume driving only after receiving permission from your doctor.

## The Day of Surgery

Before the surgery, local anesthetic (numbing) drops will be placed into the eye to be treated and you will be escorted into the room with the laser. You will lie on your back in a reclining chair and look up. An instrument will be placed between your eyelids to hold them open during the surgery. There will also be a temporary shield covering the eye not having surgery. You will be asked to listen to the sounds of the treatment so that you will be prepared for the noise the laser makes during the surgery.

The surgery begins with the placement of a suction ring that elevates the pressure in the eye. The vision in the eye will go black as the suction increases the pressure in the eye. The femtosecond laser or microkeratome creates a circular corneal flap. The doctor will lift this flap of tissue after the suction is released. Vision will return to the eye after the suction is released.

The doctor will then reposition your head in the chair and refocus the microscope. You will be asked to look directly at a blinking light while the laser is running. It is important to fix your gaze on the light for the entire laser procedure. Try to keep both eyes open without squinting, as this makes it easier to keep looking at the light. Small amounts of tissue will then be removed from your cornea using the **AMO STAR S4 IR** Excimer Laser system.

**PRECAUTION:**

**It is very important that you keep looking at the flashing fixation light during the procedure, even if the light fades or becomes dim. You need to concentrate on looking at this light throughout the treatment to ensure the best results possible.**

Typically, the laser beam will be applied to your eye less than 2 minutes and, overall, the surgery may last about 10 minutes.

After the laser surgery is complete, some eye drops may be placed on your eye. The surgery is painless because of the anesthetic drop. When the anesthetic drops wear off (about 30 to 60 minutes), your eye may hurt moderately for 1 to 2 days. The discomfort is typically described as “a sandy sensation.” Your doctor can prescribe pain medication to make you more comfortable during this time after the surgery. To promote healing and lessen the risk of infection, do **NOT** rub your eye after surgery.

## **After Surgery**

You will be experience mild to moderate pain, discomfort, blurred vision, tearing and sensitivity to light during the first week following surgery.

### **IMPORTANT:**

**Use the lubricants and eye medications as directed by your doctor. Your results depend upon you following your doctor's instructions.**

### **WARNING:**

**Your doctor will monitor you for any side effects if you need to use a topical steroid medication. Possible side effects of prolonged topical steroid use are:**

- ocular hypertension (an increase in the eye pressure).
- glaucoma (a condition usually associated with high eye pressure that results in damage to the nerve in the eye and possible loss of vision).
- cataract formation (an opacity or clouding of the lens inside the eye that can cause a loss of vision).

## Questions to Ask Your Doctor

You may want to ask the following questions to help you decide if

**Advanced CustomVue** LASIK is right for you:

- What other options are available for correcting my vision?
- Will I have to limit my activities after surgery, and for how long?
- What are the benefits of **Advanced CustomVue** LASIK for my amount of refractive error?
- What vision can I expect in the first few months after surgery?
- If **Advanced CustomVue** LASIK does not correct my vision, what is the possibility that my glasses will need to be stronger than before? Could my need for glasses increase over time?
- Will I be able to wear contact lenses after laser surgery if I need them?
- How is **Advanced CustomVue** LASIK likely to affect my need to wear glasses or contact lenses as I get older?
- Will my cornea heal differently if injured after having laser surgery?
- Should I have **Advanced CustomVue** LASIK in my other eye?
- How long will I have to wait before I can have surgery on my other eye?
- What vision problems might I experience if I have **Advanced CustomVue** LASIK only on one eye?

Discuss the cost of surgery and follow-up care requirements with your doctor, as **Advanced CustomVue** LASIK is not covered by most health insurance policies.

## Self-Test

Are You an Informed and Educated Patient?

Take the test below and see if you can correctly answer these questions after reading this booklet.

Number	Question	TRUE	FALSE
1.	<b>Advanced CustomVue</b> LASIK surgery is risk free.		
2.	It doesn't matter if I wear my contact lenses when my doctor told me not to.		
3.	The laser does all the work; I just have to lie on the chair.		
4.	After the surgery, there is a good chance that I will be less dependent on eyeglasses		
5.	I may need reading glasses after laser surgery.		
6.	There is a risk that I may lose some vision after <b>Advanced CustomVue</b> LASIK surgery.		
7.	It doesn't matter if I am pregnant.		
8.	If I have an autoimmune disease, I am still a good candidate for laser vision correction.		

**Answers to SELF-TEST are found on page 30.**

## Summary of Important Information

- **Advanced CustomVue** LASIK is a permanent operation to the cornea and is irreversible.
- **Advanced CustomVue** LASIK may not eliminate the need for reading glasses, even if you never have worn them before.
- Your vision must be stable for at least one year before **Advanced CustomVue** LASIK. You will need written evidence that your nearsightedness with or without astigmatism has changed less than 1.0 diopters.
- Pregnant and nursing women should wait until they are not nursing and not pregnant to have the surgery.
- You are not a good candidate if you have degenerative or autoimmune diseases, or have a condition that makes wound healing difficult.
- **Advanced CustomVue** LASIK may result in some discomfort. The surgery is not risk-free. Please read this entire booklet, especially the sections on Benefits and Risks before you agree to the surgery.
- Alternatives to **Advanced CustomVue** LASIK include, but are not limited to, glasses, contact lenses, non-custom LASIK and PRK, RK, and ALK.
- Some people have job-related vision requirements that cannot be met by having **Advanced CustomVue** LASIK.
- Before considering laser vision correction you should:
  - a. Have a complete eye examination.
  - b. Talk with one or more eye care professionals about the potential benefits of laser refractive surgery, and the complications, risks, and time required for healing.

## Answers to Self-Test Questions

1. False (see <b><u>Risks</u></b> on page 13);
2. False (see <b><u>Before Surgery</u></b> on page 24);
3. False (see <b><u>The Day of Surgery</u></b> on page 24);
4. True (see <b><u>Benefits</u></b> on page 8);
5. True (see <b><u>Risks</u></b> on page 13);
6. True (see <b><u>Risks</u></b> on page 13);
7. False (see <b><u>Contraindications</u></b> on page 14);
8. False (see <b><u>Contraindications</u></b> on page 13).



# GLOSSARY

This section contains definitions of terms used in this information booklet. Please discuss with your doctor any questions you may have about these terms.

**Antibiotic Medication:** a drug used to treat or prevent infection.

**Anti-inflammatory Medication:** a drug that reduces redness and swelling associated with inflammation. The drug may be a corticosteroid, or a nonsteroidal anti-inflammatory drug.

**Astigmatism:** The cornea and lens focus light rays from horizontal and vertical lines at different distances from the retina. The multiple focal distances result in blurred vision. Astigmatism may occur alone or along with nearsightedness and other refractive errors.

**Automated Lamellar Keratectomy (ALK):** a type of surgery used to correct vision by removing a cap of cornea using a microkeratome (an automated instrument), reshaping or flattening the cap of cornea, and then replacing the cap on the corneal bed.

**Cataract:** an opacity or clouding of the lens inside the eye that can cause a loss of vision.

**Collagen Vascular Disease:** a condition that may result in inflammation or swelling of parts of the body, such as muscles, joints, and blood vessels. Examples of this type of disease are lupus and rheumatoid arthritis.

**Contraindications:** any special condition that results in the treatment being inadvisable.

**Cornea:** the clear front surface of the eye. Surgery such as PRK and LASIK reshape or flatten this surface to correct vision.

**Corneal Epithelium:** the top layer of the cornea. The doctor removes this layer during PRK surgery. The epithelium then grows back a few days after PRK surgery.

**Corneal Haze:** a cloudiness of the cornea that may occur after PRK and rarely after LASIK.

**Corneal Ulcer:** an infection of the cornea that may result in a loss of vision.

**Diopter (D):** a unit used to measure the amount of myopia, hyperopia, or astigmatism of any eye.

**Femtosecond Laser:** a laser that cuts a flap of tissue from the front surface of the eye.

**Glaucoma:** a condition usually associated with high eye pressure. This condition results in damage to the nerve at the back of the eye and possible loss of vision.

**Halos:** circular flares or rings of light that may appear around a headlight or other lighted object.

**Herpes Simplex:** a type of infection caused by a virus that can recur. This virus typically causes cold sores and/or vesicles to appear on the face or other parts of the body.

**Herpes Zoster:** a type of infection caused by a virus that can recur. Vesicles typically appear on only one side of the body.

***iDesign Advanced WaveScan Studio System:*** the ***iDesign Advanced WaveScan Studio System*** is a diagnostic instrument to objectively measure the refractive errors of the eye.

**Immunodeficiency Disease:** a condition that alters the body's ability to fight infection. An example is AIDS.

**Intraocular Pressure (IOP):** fluid pressure inside the eye. Your doctor measures the pressure inside the eye with a tonometer.

**Keratoconus:** a condition of the cornea that results in a thinning of the cornea. A change in corneal shape like a cone typically occurs.

**LASIK:** a type of surgery used to correct vision by raising a flap of cornea using a femtosecond laser or a microkeratome (an automated instrument), then reshaping the cornea underneath using an excimer laser, and then replacing the flap on the corneal bed.

**Lens:** a structure inside the eye that helps to focus light onto the back of the eye, or an optical instrument for forming an image by focusing rays of light.

**Microkeratome:** an automated surgical tool that cuts a flap of tissue from the front surface of the eye with a blade.

**Myopia:** a refractive error in which the cornea and lens focus light rays from distant objects in front of the retina, causing images of distant objects to appear blurry. Nearsightedness is another term for myopia.

**Nearsightedness:** a refractive error in which the cornea and lens focus light rays from distant objects in front of the retina, causing images of

distant objects to appear blurry. Myopia is another term for nearsightedness.

**Ocular Hypertension:** an increase in the pressure inside the eye.

**Photorefractive Keratectomy (PRK):** a type of surgery used to correct vision by reshaping the top surface of the cornea using an excimer laser.

**Radial Keratotomy (RK):** a type of surgery used to correct vision by flattening the cornea with a scalpel.

**Refract:** to bend or focus rays of light.

**Refraction:** the focusing power of a lens or eye.

**Refractive Error:** a focusing error of the eye, in which parallel light rays are not brought to a sharp focus precisely on the retina, producing a blurred image. Refractive errors can be myopic, astigmatic, or hyperopic.

**Regression:** a decrease in the amount of vision correction after LASIK surgery.

**Retina:** the back surface of the eye. The retina senses focused light and transfers signals to the brain.

**Wavefront:** a surface representing the cross-section of the paths that light rays follow as they travel through the eye.

**Wavefront error:** simple and complex focusing errors in the eye that are revealed by differences in the paths of light rays as they are bent by the eye.

**Wavefront Error Maps:** a color map that displays wavefront errors measured by the *iDesign Advanced WaveScan Studio* System.

# PATIENT ASSISTANCE INFORMATION

Primary Eye Care Professional

Name:

Address: Phone:

Laser Vision Correction Doctor

Name:

Address:

Phone:

Treatment Location

Name:

Address:

Phone:

## **Laser Manufacturer:**

AMO Manufacturing USA, LLC  
510 Cottonwood Drive  
Milpitas, CA, USA 95035 USA  
1-877-AMO-4-LIFE (USA)  
[www.amo-inc.com](http://www.amo-inc.com)  
Product of USA

