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LASIK for Myopia (Nearsightedness) and Astigmatism

Surgical laser treatment for nearsighted patients with vision correction -1.00* to -14.00 diopters spherical equivalent and having astigmatism 0.00 to -4.00 diopters of cylinder.

*Ask your doctor about certain limitations in the lower range of correction. You may not be qualified for treatment with certain amounts of astigmatism.

■ Introduction

[- How the eye functions -](#)

Please read all the "information for patients" if you are thinking about having a type of laser surgery, called Laser in situ Keratomileusis (LASIK, also called laser-assisted in situ keratomileusis), performed to correct nearsightedness (myopia) with or without treatment for astigmatism. The options for correction of myopia and astigmatism now include glasses, contact lenses, and different kinds of refractive surgery such as radial keratotomy (RK), automated lamellar keratoplasty, surface treatment by photorefractive keratectomy (PRK), and LASIK using excimer lasers, including the Nidek EC-5000 Excimer Laser System.



This information can help you make an informed decision when selecting a method to correct your nearsightedness. If both of your eyes are nearsighted, your doctor may recommend LASIK surgery for both eyes to achieve satisfactory vision. However, there are cases where it is better to reshape the cornea on only one eye. For example, one reason for treating only one eye is that you may use the eye for looking close up and one eye for looking far away.



Please read the rest of the "information for patients" completely. Discuss any questions you may have with your doctor in order to decide if LASIK is the right choice for you. Only a trained and certified practitioner can determine whether or not you are a suitable candidate for LASIK. You should be aware that a small percentage of patients treated with excimer lasers experience permanent vision reduction. The goal of LASIK is to reduce your need for glasses or contact lenses by changing the shape of the cornea through LASIK laser surgery.

How the Eye Functions

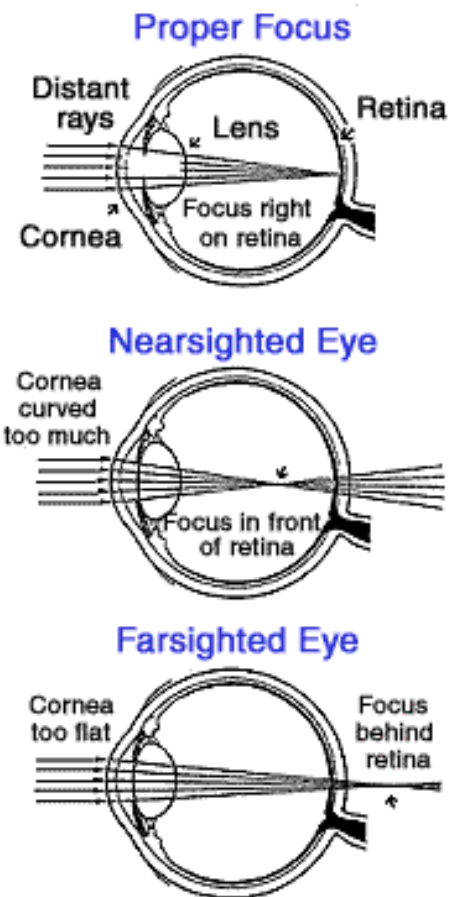
The cornea and lens of the eye focus light like a camera lens to form an image on the retina at the back of the eye. The cornea, where light first enters the front of the eye, provides about two thirds of the eye's focusing power, and the lens inside the eye provides the other third. Normally, in relatively young persons (i.e., less than 50 years of age) the lens of the eye can adjust its focusing power somewhat, so you can see objects clearly both near and far away.

The eye focuses light by refracting all light rays to meet at a single point. If the focusing process works perfectly, a sharp image of the object you are looking at will be focused exactly on the retina and you will see a clear image. However, if the light focuses either in front of or behind the retina, the image on the retina (and the image you see) will be blurred, and you are said to have a refractive error. Refractive errors are not diseases, but are common variations observed in human beings across the world.

There are three main types of refractive error. They are called nearsightedness (myopia), farsightedness (hyperopia) and astigmatism. The amount of refractive error present in the eye is measured in units called "diopters." When your eye cannot focus correctly, it is said to have one of the main refractive errors: myopia or hyperopia.

Myopia usually starts in childhood and typically stabilizes in the late teens or early adulthood. The tendency to develop myopia also runs in families. Myopia can change from a very mild to a very strong nearsighted effect. The range of treatment with the Nidek EC-5000 covers a large part of that range.

Hyperopia is also very common, and is especially problematic in older persons



who have difficulty in focusing on objects up close. Currently, the Nidek EC-5000 is not approved for treating hyperopia.

Astigmatism occurs when the refractive error is stronger in a particular direction. Astigmatism may occur with either myopia or hyperopia.

The following pictures emphasize the role of the cornea in determining the focusing power of the eye. They show that the more sharply the cornea is curved, the more the light rays are bent. If the cornea is curved too much, the image focuses in front of the retina and the eye is nearsighted. If the cornea is too flat, the image focuses behind the retina and the eye is farsighted. When the cornea shape is just right the image from a distant object is focused exactly on the retina. This proper focus for distance vision is called emmetropia.

Good focus depends on three factors, the overall shape and size of your eye, the shape of the cornea, and your lens power. During a regular eye examination, your doctor checks your vision to determine where the eye focuses light relative to your retina. When your doctor adjusts your vision with different lenses, he correctly focuses light on the retina.

Myopia affects about 25% of the population in North America. Myopic individuals see near objects clearly, but distant objects are blurry. Nearsightedness and astigmatism can be corrected by any method that reduces the total refractive power of the eye, and includes the use of glasses, contact lenses and refractive surgery. With glasses or contacts, changes in your vision that occur slowly over time can be corrected by simply adjusting the lens prescription of your glasses or contacts. Refractive surgery, on the other hand, produces changes that are permanent and cannot be undone or easily modified if your vision changes or if the initial surgery is not successful (2.9% of initial surgeries were found to be greater than 2.0D from intended correction at 6 months after surgery.)

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LASIK for Myopia & Astigmatism

■ What is LASIK?

LASIK is laser surgery to correct nearsightedness (myopia) with or without astigmatism. An excimer laser beam is used to flatten the middle layer of the cornea. The laser beam removes microscopic amounts of tissue from the middle layer of the cornea, precisely reshaping the cornea.



The excimer laser produces a beam of ultraviolet light in a series of rapid pulses. Each pulse lasts only a few billionths of a second and removes a microscopic amount of tissue by evaporating it. Excimer laser light does not penetrate the eye and leaves other eye structures (iris, lens and retina) undisturbed. The laser produces very little heat and is controlled by the doctor during the operation.

Prior to LASIK, some anesthetic drops are placed on the eye to numb it. Your doctor then begins the LASIK procedure by cutting a thin flap on the front of the cornea using a special cutting instrument called a micro-keratome. The doctor will then fold back this flap of tissue much like opening a hinged cabinet door. Folding back the flap will give the doctor access to the middle layer of the cornea where the laser treatment will be performed. This part usually takes a couple of minutes. After that, your doctor uses the laser beam to perform the LASIK procedure. The laser treatment usually lasts only about 15-40 seconds. After the laser treatment is complete, the doctor will carefully fold the flap of cornea tissue back into place to complete the procedure. This procedure is performed on one eye at a time even if both are to be treated. If all goes well with the first eye, and your vision stabilizes without complications or adverse reactions, then the second eye can be treated later. LASIK laser surgery on the second eye is usually done at least one week after the first eye, if needed.

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LASIK for Myopia & Astigmatism

■ Contraindications, Warnings & Precautions

Contraindications

You should not have LASIK surgery if:

- You have collagen vascular, autoimmune or immunodeficiency diseases (for example: rheumatoid arthritis, lupus or AIDS). These conditions may result in scarring or poor healing after LASIK treatment resulting in reduced vision.
- You are pregnant or nursing. These conditions may affect your preoperative refraction making it difficult to choose the correct amount of LASIK treatment.
- You show signs of keratoconus (thinning of the cornea) or corneal disease. This condition can lead to serious cornea problems that require additional surgical repair and result in poor vision.
- You have a condition which would stimulate large amounts of scar tissue (keloid formation). Scarring can be permanent and may require surgery to repair.
- You are taking prescription medications that affect corneal healing or your refraction. You should discuss all medications you take, even over-the-counter medications, with your eye doctor. Many medications can affect the way your cornea is changed by the laser and the way it heals after LASIK treatment. These may affect your refractive outcome and possibly result in reduced vision after LASIK treatment.

Warnings

Discuss with your doctor if:

- Your nearsightedness is changing. If your vision is unstable, then you should not be treated. Treatment of unstable vision may affect the accuracy of your refractive results.
- You have severe allergies. Your medications may have to change before or after your eye surgery. These medications may change the wetness (moisture level) in your eye. If the medication changes the wetness of your eye, the accuracy of your refractive results may be affected.
- You have been diagnosed with ocular Herpes simplex or ocular Herpes zoster. Herpes are viral infections. Laser treatment may reactivate the infection.
- You have nystagmus (uncontrolled eye movements) or another condition that prevents a steady gaze. You need to be able to keep your eyes still during treatment. The accuracy of your refractive results will be affected if you cannot keep your eyes still during treatment.

Precautions

The safety and effectiveness of the Nidek EC-5000 Excimer Laser has NOT been established in patients with the following conditions or situations. Therefore, no statement regarding the safety and effectiveness can be made about the effect these situations may have on LASIK refractive surgery with the EC-5000:

- Eyes with disease or corneal abnormality.
- Eyes with previous surgery or injury to the center of the cornea where LASIK will be performed.
- Patients with glaucoma or high pressure in the eye.
- Patients taking insulin for diabetes.
- Patients over the long term (more than 1 years after the surgery).
- Patients under 21 years of age.

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LASIK for Myopia & Astigmatism

■ Risks & Benefits

Risks

LASIK is a laser surgical procedure involving your eyes and has potentially serious risks. You should consider and discuss with your doctor the risks that are noted here.

These are based on clinical experience with LASIK cases and the possibilities that doctors believe should be considered for this kind of eye surgery.

See the information listed below for details on risks of complications and adverse events.



- At the time of surgery, it is possible that the flap will not be cut correctly. In some cases, the flap of tissue may not be the correct size or shape or may be too thin (0% of cases). In these cases, the doctor may have to stop the surgery, fold the flap into position, and allow it to heal. In most cases, the doctor can complete surgery at a later date. In the studies on LASIK, the majority of these cases were completed later and had a successful result.
- Although the effects of LASIK on visual performance under poor lighting conditions have not been determined, it is possible that you will find it more difficult than usual to see in conditions such as very dim light, rain, snow, fog or glare from bright lights at night. These effects have been reported as being more common in persons with large pupils (over 6 mm). It is possible that these may be permanent effects.
- **The first week following surgery:** The following complications have been reported up to several weeks following LASIK treatment. They are associated with the normal healing process after treatment and include:
 - Discomfort (60.2% of cases, including mild to moderate pain, pressure, scratchiness, burning sensation, and dryness) may last

for up to 1 day after surgery, for which your eye doctor can provide medications.

- The feeling that something is in your eye.
 - Swelling of the cornea.
 - A problem with healing of the corneal flap, including damage to the flap, loss or misalignment of the flap, or growth of cornea surface cells under the flap. If needed, the doctor may lift the flap to clean the middle layer of the cornea and reposition the flap to improve healing.
 - Blurred vision and tearing or watery eyes may occur as the cornea and the flap heals.
 - Sensitivity to bright lights.
- **The first two or six months following surgery:**
 - Your intraocular pressure may increase due to use of steroid or anti-inflammatory medications (0% to 0.1% of eyes had a significant elevation in intraocular pressure in this time frame). This is usually resolved by drug therapy or by stopping the use of steroid or anti-inflammatory medication.
 - Hazy or cloudy vision rarely occurs after LASIK surgery (<1.0% of eyes had mild or moderate haze with no significant loss of vision).
 - An increase in fluctuation of vision (40.0% pre-operatively vs. 64.3% post operatively).
 - Glare (35.7% pre-operatively vs. 35.7% post-operatively).
 - Difficulty in night driving (26.2% pre-operatively vs. 69.0% post-operatively).

CAUTION: You should contact your doctor if you notice any pain or change or loss of vision in the eye. Eye pain or sudden loss of vision can indicate a serious problem that required immediate medical attention.

- **One year after surgery:** Nidek clinical studies showed that at one year after LASIK surgery the following vision-threatening events happened:
 - Too large a correction (causing farsightedness more than +2.0D) (1.2%).
 - Losing a significant amount (more than 2 lines lost on an eye chart) of vision even with glasses.(0.6%)

If the results of the surgery are not satisfactory, you may need to have additional LASIK surgery in the same eye.

Benefits

- LASIK surgery, as performed with the Nidek EC-5000 Excimer Laser, is effective in reducing nearsightedness requiring correction from -1.00 to -

14.00 diopters spherical equivalent in patients with 0.00 to -4.00 diopters of astigmatism (85.2% of treated eyes were within 1.0 diopter of intended correction at 6 months).

- LASIK may reduce overall nearsightedness (84.4% significantly improved uncorrected vision to the level of 20/40 or better at 6 months).
- LASIK may reduce or eliminate dependency upon contact lenses or glasses (47.4% could see 20/20 or better without glasses or contacts at 6 months).
- LASIK should be considered a permanent surgical procedure, in that the refractive result changes little after the first few months. If your refractive result is unsatisfactory, your doctor may recommend further surgical treatments, or correcting your remaining refractive error with glasses or contacts.

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LASIK for Myopia & Astigmatism

■ Are you a good candidate for LASIK?

[- Why LASIK may not be right for you -](#)

If you are considering LASIK you must:

- Be at least 21 years of age.
- Have healthy eyes which are free from eye disease or corneal abnormality (for example: scar, infection, etc.).
- Have nearsightedness (myopia) requiring vision correction between -1.00 and -14.00 diopters spherical equivalent, with 0.00 to -4.00 diopters of astigmatism.
- Be sure your eye doctor has satisfactory evidence that your refraction has been stable over the past year (changed by less than or equal to 0.5 diopters in your vision correction, or by less than or equal to 0.5 diopters in your astigmatism correction).
- Be informed of LASIK risks and benefits as compared to other available treatments for nearsightedness (myopia) and astigmatism.
- Be willing to sign an informed consent form, as provided by your eye care professional.



Why LASIK may not be right for you

- **If you expect perfect results.** No surgical procedure can assure you perfect results or can guarantee that you expectations will be met.
- **If you expect perfect vision under all conditions.** At night, eyes that have been reshaped by refractive procedures such as LASIK may experience haze and a variety of visual effects. The LASIK procedure

only reshapes the central portion of the cornea and does not reshape the entire cornea. As a result, when the pupil of the eye dilates (6 mm) under low light conditions it opens past the boundaries of the treated area producing unwanted changes in vision, such as halos and hypersensitivity to light. You may find that you will need to wear corrective lenses to drive at night. LASIK treatment is not intended to eliminate the need for reading glasses. In some patients, reading glasses may be required after treatment even if they were not worn before treatment. As patients get to age 40 and beyond, they are more and more likely to require reading glasses when their distance vision is otherwise excellent. Nearly all older patients require reading glasses if their distance vision is fully corrected. If the thought of occasionally wearing eyewear is uncomfortable, then LASIK may not be right for you.

- **If you expect an instant change in vision.** The visual results are not instant, even for patients with less than 4 diopters of correction. It may take up to 3 months, sometimes longer, for the shape of the cornea to stabilize following surgery. You must be patient and be willing to wait until the healing process finishes. You may also be asked to temporarily wear corrective lenses. Please note that various occupations may have certain restrictions regarding refractive surgery. Therefore, you should check with the appropriate people before having refractive surgery.

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LASIK for Myopia & Astigmatism

■ Before & the day of surgery

Before the surgery

If you are interested in having LASIK, you will need to have a pre-surgical examination to determine if your eye is healthy and suitable for LASIK. This will include a complete eye history, and a thorough examination of both eyes. In addition computerized mapping of your cornea will be done to determine if it is smooth and properly shaped.

Warning

If you wear contact lenses, it is very important to stop wearing them 2-4 weeks before the evaluation. Failure to do this can produce poor surgical results.

Before the surgery, please tell your doctor well in advance whether you take any medications or have any allergies. Also, talk with your doctor about whether you can eat or drink immediately before the surgery. You should arrange for transportation for the day of surgery and your next doctor's appointment, since you must not drive immediately after the surgery. You can resume driving only after receiving permission from your doctor.

The day of surgery

Before the surgery, 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 at a microscope that will deliver the laser light to your cornea. An instrument will be placed between your eyelids to hold them open during the surgery. For protection and comfort, a temporary shield will cover the eye not having surgery.

- Your doctor may perform a brief practice treatment so you can hear and smell what the laser will be like during the treatment.
- Your doctor begins the procedure by using a cutting instrument, called a microkeratome, to cut a thin flap in the front of the cornea. The instrument used to hold your eyelids open may need to be changed between this part of the surgery and before doing the laser treatment.
- Next the doctor repositions your head in the chair, and then carefully folds back the flap of tissue much like opening a hinged cabinet door. This gives a doctor access to the middle layer of the cornea where the laser treatment will be performed. The doctor then refocuses the microscope on your cornea. You will be asked to look directly at a blinking light. Relax the muscles of your face and forehead and try to keep both eyes open without squinting. As you continue to look at the blinking light, small amounts of tissue will be removed from your cornea using the Nidek EC-5000 Excimer Laser.

Precaution

It is very important that you keep looking at the blinking light during the procedure, even if the light fades or becomes dim. The quality of vision and accuracy of your refractive result after LASIK can depend upon your looking straight at this blinking light throughout the treatment

- You will be exposed to laser energy for less than 1 minute. However, the entire surgical procedure takes about 10 to 15 minutes.
- After the laser surgery is complete, some drops or ointment will be placed into your eye. Then it will be covered and patched for your protection and comfort. The surgery itself is painless because of the numbing actions of the anesthetic drops that were applied to your eye at the beginning of the procedure.
- After 45-60 minutes, the anesthetic will wear off and your eye may hurt for 1-3 days. Most patients describe this pain as moderate to severe. Do NOT rub your eyes for the first 3 to 5 days. Rubbing your eyes can damage the cornea and will delay healing. Your doctor can prescribe pain medication to make you more comfortable during the first week after the surgery.

Warning

Your doctor will monitor you for any side effects if topical steroids were used. The possible side effects from prolonged use of topical steroids are ocular hypertension (an increase of pressure in the eye), glaucoma or cataract formation.

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LASIK for Myopia & Astigmatism

■ The first days after surgery

In your doctor's office, your eye patch will be removed the following day. You will be mildly sensitive to light and have the feeling that something is in your eye for the first few days. Sunglasses may make you more comfortable during this time.

- Your vision should become stable within the first several weeks after surgery. Some patients may experience some small changes (for example, improvement or worsening of their vision). These changes may occur up to six months or more after surgery.
- Hazy or cloudy vision rarely occurs after LASIK surgery (<1% of eyes had mild or moderate haze).

Important

Use the anti-inflammatory eye drops and lubricants as directed by your doctor. Your surgical results depend upon your following your doctor's directions.

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LASIK for Myopia & Astigmatism

■ Questions to ask your doctor

You may want to ask the following questions to help you decide if LASIK is right for you:

- What other options are available for correcting my nearsightedness and astigmatism?
- Will I have to limit my activities after surgery, and for how long?
- What are the benefits of LASIK for my amount of nearsightedness and astigmatism?
- What quality of vision can I expect in the first few months after surgery?
- If LASIK does not correct my vision, what is the possibility that my glasses would need to be stronger than before? Could my need for glasses increase over time?
- Will I be able to wear contact lenses after LASIK if I need them?
- How is LASIK likely to affect my need to wear glasses or contact lenses as I get older?
- Is it likely I will need reading glasses sooner than later?
- Will my cornea heal differently if injured after having LASIK?
- Should I have LASIK surgery in my other eye?



- How long will I have to wait before I can have LASIK surgery on my other eye?
- What vision problems might I experience if I have LASIK only on one eye?

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

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■ 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 information for patients.

1. Excimer laser refractive surgery is risk free.

True False

2. Excimer laser surgery use pulses of invisible light.

True False

3. It doesn't matter if I wear my contact lenses when my doctor told me not to.

True False

4. The laser does all the work; I just have to lie on the chair and close my eyes.

True False

5. After the surgery, there is a good chance that I will be less dependent on eye glasses.

True False

6. I may need reading glasses after laser surgery.

True False

7. There is a risk that I may lose some vision after laser surgery.

True False

8. It doesn't matter if I am pregnant.

True False

9. If I have an auto-immune disease, I am still a good candidate for LASIK.

True False

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LASIK for Myopia & Astigmatism

■ Summary of Important Information

- LASIK is a permanent operation to the cornea that cannot be easily changed.
- Alternatives to LASIK include glasses, contact lenses, RK and PRK.
- LASIK is not a laser version of radial keratotomy (RK); they are completely different from one another.
- Some occupations, such as pilots, do not accept applicants who have had any refractive surgery.
- Refractive error must be stable (within ± 0.5 diopters in your vision correction, or within ± 0.5 diopters in your astigmatism correction) for at least one year before surgery.
- The following risks of LASIK surgery should be noted:
 - temporary discomfort may be expected for 24-72 hours after surgery. If the discomfort persists, please contact your doctor.
 - problems that may last several weeks: corneal swelling, blurred vision, feeling something in the eye, shadow images, light sensitivity, tearing, and pupil enlargement.
 - adverse events beyond the first few months: elevation of intraocular pressure (0% at 6 months); cloudy cornea affecting vision (0% at 6 months); overcorrection by more than 2.0 diopters (1.2% at 6 months, 1.2% at 12 months); under correction or nearsighted by more than 2.0 diopters (1.7% at 6 months, 0.6% at 12 months); loss of best vision that can be achieved with glasses (0.1% at 6 months); lost or damaged corneal flap (0% at 6 months); ghost images (1.3% at 6 months).

- The following benefits of LASIK surgery should be noted:
 - Nearsightedness with astigmatism may be reduced so that the amount of time contact lenses or glasses are used during the day is reduced or eliminated.
 - LASIK may be an alternative to glasses in some patients who are intolerant of contact lenses.
 - LASIK may be another alternative to correct nearsightedness and astigmatism.

- Patients considering LASIK surgery should:
 - Discuss fully with one or more ophthalmic surgeons the complications of LASIK surgery, the risks and the time required for healing, and have a complete eye examination before making a final decision.
 - Read both the Patient Information Booklet (same contents with this information for patients pages) and the Informed Consent Document (ICD) provided by your doctor carefully before signing the ICD.

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LASIK for Myopia & Astigmatism

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Summary of Key Safety and Efficacy Variables at 6 months after Surgery

Efficacy Variables

Visual acuity without glasses or contacts:

20/20 or better 47.4%

20/40 or better 84.4%

Treated eyes within range of target correction (MRSE):

±0.50 diopters 60.3%

±1.00 diopters 85.2%

±2.00 diopters 97.1%

Safety Variables

- Visual acuity with glasses being 20/40 or worse: 0.1%
- Loss of more than 2 lines on vision chart with glasses on: 0.7%
- Visual acuity with glasses on is worse than 20/25 when better than 20/20 before surgery: 0.7%

At the point of stability (6 months), the precision (accuracy of MRSE post-op to target for MRSE ±1.00D) is significantly lower for refractive errors of equal to or greater than 10.0D of myopia (see following table).

Pre-Operative MRSE equal or greater than 10.0 D at the Point of Stability (6 months)			
Difference from Intended Outcome	-10.0D to -11.99D n/N (%)	-12.0D to -13.99D n/N (%)	Equal or more than 14.0D n/N (%)
±0.50 diopters	39/77 (50.6%)	3/20 (15.0%)	0/4 (0.0%)
±1.00 diopters	58/77 (75.3%)	11/20 (55.0%)	0/4 (0.0%)
±2.00 diopters	72/77 (93.5%)	16/20 (80.0%)	3/4 (75.0%)

Complications and Adverse Events		
Description	Immediate Post-op to 1 Month	At 6 Months
<i>Complications-</i>		
Discomfort:	----	0.0%
Haze (trace to moderate):	0.0%	0.0%
Foreign body sensation:	----	0.5%
Ghost/double images:	----	1.3%
Corneal swelling:	0.0%	----
Peripheral corneal surface defect:	----	0.2%
Flap not size and shape intended or not cut completely:	----	0.0%

Adverse events-

Corneal infiltrate or ulcer:	----	0.0%
Lost or misaligned flap:	----	0.0%
Elevated intraocular pressure (relative or absolute):	----	0.0%
Loss of visual acuity after 6 months:	----	0.5%
Late onset haze with decreased vision:	----	0.0%
Retinal accidents/detach:	----	0.0%

Glossary

Astigmatism

A refractive error that is stronger in one direction than others, usually corrected by glasses or contacts with a slight cylinder shape.

Automated lamellar keratoplasty

An older surgical technique to remove a thin layer of the cornea and reshape it to correct refractive error.

Collagen vascular disease

Any of several conditions that alter the way your body creates and metabolizes normal connective tissue like collagen. The cornea is made mostly of collagen. some common examples include lupus, scleroderma, and rheumatoid arthritis.

Corneal edema

A swelling of the cornea, common in response to eye surgery or injury, that sometimes causes temporary clouding of the cornea.

Corneal infiltrate

An infection or inflammatory response that penetrates into the cornea, often more difficult to treat than a surface problem.

Cylinder

Describes the barrel shaped lens required to fix your astigmatic refractive error.

Efficacy

How well or effectively a treatment performs.

Increase in fluctuation of vision

Variations in vision more than usual or normal that are easily noticed by a

person when lighting conditions change (e.g., daytime compared to night-time vision).

Intraocular pressure (IOP)

The normally constant fluid pressure inside the eye. When too high, it can cause glaucoma.

Laser in situ keratomileusis (LASIK)

Use of an excimer laser to treat refractive error under a thin flap of the cornea. The flap is made first, moved out of the way for laser treatment, then replaced to cover the treatment area.

MRSE

The manifest refractive spherical equivalent, a measure of the overall lens power of the refractive correction needed by your eye.

Radial keratotomy (RK)

A surgical treatment to correct refractive error using small cuts to change the shape of the cornea.

Recurrent erosions

A repeated uncovering of the corneal epithelial cells that protect the cornea.

Refractive surgery

Surgery to change how the eye focuses to correct refractive error. This includes the use of laser surgery or cuts to alter the shape of the cornea, implantation of small lenses or rings, or surgical removal of a clear lens.

Sphere

Describes the round shaped lens required to fix your refractive error when you do not have astigmatism.

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