

## LASIK

### **What is LASIK?**

Laser assisted in situ keratomileusis, or LASIK, is an outpatient surgical procedure used to treat myopia (nearsightedness), hyperopia (farsightedness), and astigmatism. With LASIK, your ophthalmologist (Eye M.D.) uses a microsurgical instrument and a laser to reshape the cornea (the clear covering of the eye) to improve the way the eye focuses light rays onto the retina.

LASIK may decrease your dependence on glasses and contacts or, in some cases, allow you to do without them entirely. According to the American Academy of Ophthalmology, seven out of 10 LASIK patients achieve 20/20 vision, but 20/20 does not always mean perfect vision. If you have LASIK to correct your distance vision, you'll probably still need reading glasses by around age 45. Therefore, it is important for you to consider the possibility that LASIK may not give you perfect vision.

### **Am I a good candidate for LASIK?**

LASIK is not for everyone, and your ophthalmologist will advise you about certain conditions that may prevent you from being a good candidate for this procedure. For instance, the ideal candidate for LASIK is over 18 years of age, not pregnant or nursing, and free of any eye disease. You should not have had a change in your eye prescription in the last year and should have a refractive error within the range of correction for LASIK.

You also must be willing to accept the potential risks, complications and side effects associated with LASIK (listed in this article). You should discuss these issues with your surgeon, carefully weighing the risks and rewards. If you're happy wearing contacts or glasses, you may want to forego the surgery.

### **What happens before surgery?**

Your ophthalmologist will perform a thorough eye exam to measure your prescription and check for any abnormalities that might affect the procedure. Your doctor will check your eyes for unusual dryness, which could cause dry eye symptoms post-operatively, or unusually large pupils, which could affect night or low-light vision.

### **How is LASIK done?**

LASIK is performed in a reclining chair in an outpatient surgical suite. First, the eye is numbed with a few drops of topical anesthetic. These drops may sting. An eyelid holder (called a speculum) is placed between the eyelids to keep them open and prevent you from blinking.

A suction ring placed on the eye lifts and flattens the cornea and helps keep your eye from moving. You may feel pressure from the eyelid holder and suction ring, similar to a finger pressed firmly on your eyelid. From the time the suction ring is put on the eye until it is removed, vision appears dim or goes black.

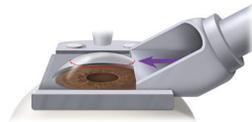


An automated microsurgical instrument called a microkeratome is attached to the suction ring. As the microkeratome blade moves across the cornea, you will hear a

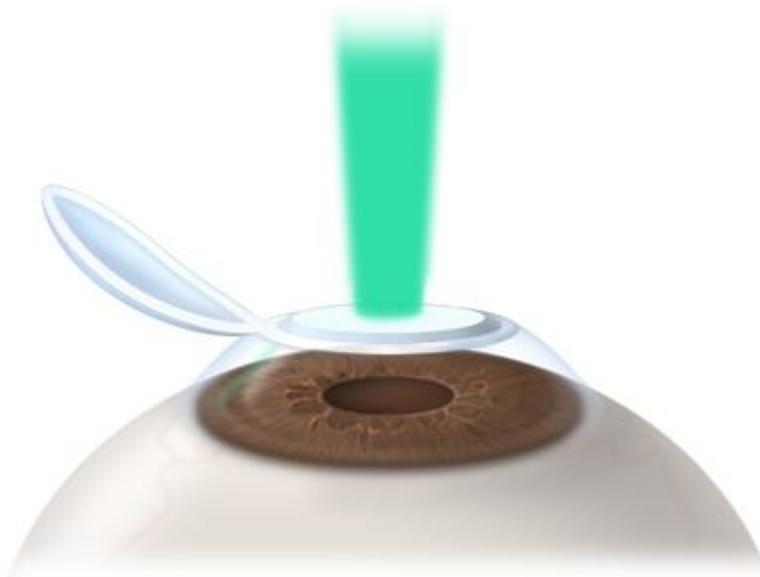
buzzing sound. The microkeratome stops at a preset point, far enough from the edge of the cornea to create a hinged flap of paper-thin corneal tissue.

The microkeratome and the suction ring are removed from your eye, and the flap is lifted and folded back. As the flap moves, your vision gets blurrier. The laser, preprogrammed with measurements customized to your eye, is then centered above the eye. In most cases, a pupil tracker will be used to keep the laser centered on your pupil during surgery.

You will stare at a special pinpoint light called a fixation light or target light while the laser sculpts the exposed corneal tissue. The laser makes a clicking sound that can be heard during the procedure. After the laser has completed reshaping the cornea, the surgeon places the flap back into position and smooths the edges. The flap adheres on its own in two to three minutes.



*The microkeratome blade lifts the corneal tissue.*



*The laser sculpts the exposed surface of cornea.*



*The tissue flap is replaced.*

### **What happens after surgery?**

To help protect cornea as it heals, your ophthalmologist may place a see-through shield over your eye, if needed, or may ask you to wear a shield at night. It is normal for your eye to burn or feel scratchy. This usually disappears in a few hours. Plan on going home and taking a nap or just relaxing after the procedure. You will be given eyedrops to help the eye's healing and to alleviate dryness. Healing after LASIK is usually less uncomfortable than with other methods of refractive surgery because the laser removes tissue from the inside of the cornea and not from the more sensitive corneal surface.

### **Risks, Complications and Side Effects**

LASIK, like any surgery, has risks and complications that should be carefully considered. LASIK can sometimes result in undercorrection or overcorrection. Fortunately, these problems can often be improved with glasses, contact lenses, or an additional laser surgery.

Most complications can be treated without any loss of vision. Permanent vision loss is very rare. There is a chance, though extremely small, that your vision will not be as good after the surgery as before, even with glasses or contacts. This is called a loss of best corrected vision.

Some people experience temporary side effects after LASIK that usually disappear over time. In rare situations, they may be permanent. These side effects may include:

- Discomfort or pain
- Hazy or blurry vision
- Scratchiness
- Dryness
- Glare
- Haloes or starbursts around lights
- Light sensitivity
- Small pink or red patches on the white of the eye

Almost everyone experiences some dryness in the eyes and fluctuating vision during the day. These symptoms usually fade within one month, although some people may continue to have symptoms for a longer period of time.

Infection is a small possibility with any surgical procedure, including LASIK. Antibiotics can usually clear such infections. Rarely, complications during surgery may cause irregularities in the corneal flap, requiring further treatment.

### **What will my vision be like after LASIK?**

It is important that anyone considering LASIK have realistic expectations. LASIK allows people to perform most of their everyday tasks without corrective lenses. However, people looking for perfect vision without glasses or contacts run the risk of being disappointed.

Over 90 percent of people who have LASIK achieve somewhere between 20/20 and 20/40 vision without glasses or contact lenses. If vision is undercorrected after the procedure, your doctor may decide to perform a second surgery, called an enhancement, to further refine the result.

LASIK cannot correct presbyopia, the age-related loss of close-up focusing power. With or without refractive surgery, almost everyone who has excellent distance vision will need reading glasses by the time they reach 40 or 50 years old. Some people choose a vision correction method called monovision, which leaves one eye slightly nearsighted. The nearsighted eye is used for close work, while the other eye is adjusted for distance vision. Although monovision is acceptable for most people, some may not be comfortable with this correction. To determine your individual needs and your ability to adapt to this correction, you may wish to try monovision with contact lenses before surgery.

If 20/20 vision is essential for your career or leisure activities, consider whether 20/40 vision would be good enough for you. You should be comfortable with the possibility that you may need a second surgery, or that you might need to wear glasses for certain things, such as reading or driving at night.

### **Is LASIK Safe?**

In January 2002, the American Academy of Ophthalmology — The Eye M.D. Association — looked at a number of scientific studies and found that LASIK is safe and effective for correcting low-to-moderate nearsightedness and astigmatism. However, the Academy also found the results of LASIK are less predictable in eyes with moderate-to- high nearsightedness.

The Academy found serious complications resulting in permanent visual loss happen rarely with LASIK, but side effects such as dry eyes, nighttime starbursts and reduced ability to see in dim light occur more frequently. Your doctor should talk to you about the possible risks and side effects of LASIK.

### **Who Shouldn't Have LASIK?**

LASIK is an excellent procedure for many, but not all people with refractive errors. Those who are not good candidates should not have the surgery. If you have any of the following conditions, you may not be a good candidate for LASIK:

- Uncontrolled or advanced glaucoma
- Pregnant or breastfeeding
- Diabetes
- Some autoimmune disorders (e.g. rheumatoid arthritis, lupus, HIV/AIDS)
- Use of Prednisone pills or drops

- Dry eyes
- Irritation of the eyelids with itching and scaly skin
- Pupil size over seven millimeters
- Warped\* or thin corneas
- Genetic or metabolic problems affecting the cornea

\* If you wear contact lenses, especially rigid lenses, before performing LASIK your doctor will examine you using a series of measurements to see if your corneas are warped. Your Eye M.D. may ask you to remove your rigid contact lenses for several weeks or months, and soft contact lenses for several days or weeks prior to examination to allow your cornea to return to its normal shape.

### **Is LASIK Better Than PRK?**

LASIK has become more popular than PRK for a number of reasons, including:

- Vision stabilizes sooner after surgery
- Less discomfort after surgery
- Faster improvement in vision
- Less corneal haze
- For people who need higher levels of correction, vision is more predictable and stable, and the corneas are clearer
- Shorter time on medication after surgery
- Enhancement procedure, if needed, is easier

However, LASIK may not be the best procedure for you. Other procedures such as PRK may be better suited for you. Your doctor will work with you to determine which, if any, procedure is best for you.

### **Will LASIK Give Me 20/20 Vision?**

It might, but even after LASIK, you may not be able to "throw away your glasses and contacts." Studies have shown that the majority of people — but not all — who have LASIK will come away with 20/40 vision or better without the need of glasses or contact lenses. Some people choose to have a second surgery, referred to as an enhancement, to further refine their vision and reduce their dependence on glasses or contact lenses. However, most people who have had LASIK will need reading glasses as they get into their 40s and 50s.

### **What Should I Do If I'm Considering LASIK?**

Talk to an Eye M.D. to determine if you are a good candidate for the procedure. If you have any of the conditions mentioned earlier, you may not be.

If your Eye M.D. determines that you are a good candidate, before setting a date for surgery, find out:

- The possible risks and complications
- The experience of your surgeon
- The outcomes of the procedures performed by your surgeon
- The percent of patients returning for secondary procedures (enhancements)

- Whether your surgeon is using a laser approved by the FDA
- What is involved in after-surgery care
- Who will handle and be responsible for after-surgery care

**Summary**

Today's LASIK procedure is the most popular form of refractive surgery for decreasing dependence on eyeglasses or contact lenses. If LASIK surgery is appropriate for your eyes, you could join thousands of people who have benefited from this widely performed procedure. To make the decision that's right for you, discuss with your ophthalmologist whether or not you are a good candidate for LASIK.