



LASIK

a closer look

WHAT IS LASIK?

Laser 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 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 21 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 must also be willing to accept the potential risks, complications and side effects associated with LASIK (see "risks" section of this handout). 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.

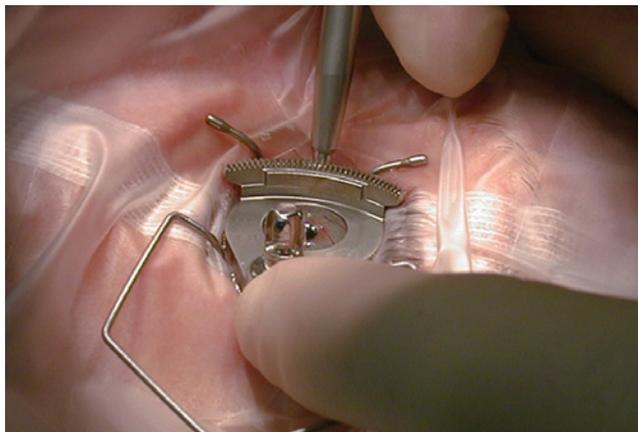
WHAT HAPPENS BEFORE SURGERY?

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 postoperatively, or unusually large pupils, which could affect night or low-light vision.

HOW IS LASIK DONE?

LASIK is performed with the patient reclining under the laser 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.

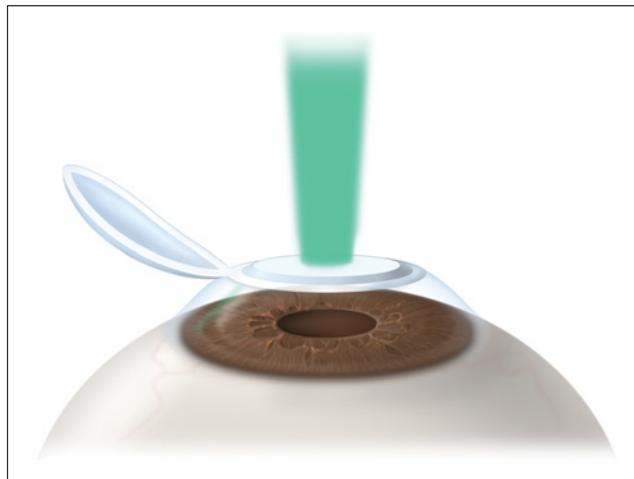


Eyelid speculum and suction ring

Your ophthalmologist may use an automated microsurgical instrument called a **microkeratome** to make a flap in your cornea. This device 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.

Some ophthalmologists use a specific laser instrument instead of a bladed microkeratome to make the flap in your cornea. With this technique, tiny, quick pulses of laser light are applied to your cornea. Each light pulse passes through the top layers of your cornea and forms a microscopic bubble at a specific depth and position within your cornea. Your Eye M.D. then creates a flap in the cornea by gently separating the tissue where these bubbles have formed. The corneal flap is then folded back.

As the flap is moved aside, your vision gets blurrier. Then a special laser for sculpting the cornea — preprogrammed with measurements customized to your eye — is centered above the eye. In most cases, a pupil tracker will be used to keep the laser centered on your pupil during surgery.



After a flap is created in the cornea, the laser sculpts the exposed corneal surface (top) and the tissue flap is replaced (bottom).

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 you can hear 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.

WHAT HAPPENS AFTER SURGERY?

To help protect your 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 have a burning sensation 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 to heal and to alleviate dryness. Healing after LASIK is usually more comfortable 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.

WHAT ARE THE 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;
- Halos 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 up 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 the procedure results in an under or overcorrection, 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 the age of 40 or 50. 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 job 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 activities, such as reading or driving at night.

NOTES

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.

COMPLIMENTS OF YOUR OPHTHALMOLOGIST:

Academy reviewed 03/11

© 2011 American Academy of Ophthalmology. The American Academy of Ophthalmology, The Eye M.D. Association and the Academy logo are registered trademarks of the American Academy of Ophthalmology.