



# LASIK: leaving lenses behind

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Staff Reporter

People who are tired of hassling with contacts or glasses could have a five-letter solution: LASIK.

Although it is not completely cutting-edge, LASIK eye surgery definitely has evolved and become increasingly popular since its debut in Russia in the '70s. According to [www.docshop.com](http://www.docshop.com), more than one million Americans receive LASIK eye surgery every year.

LASIK, laser-assisted in situ keratomileusis, has several predecessors including radio keratotomy and PRK, photorefractive keratectomy. LASIK surgery is less complex than its forerunners and has a much quicker healing process.

Laurence Miller, an ophthalmologist practicing for almost 20 years, began performing LASIK surgery in 1999 and has since completed more than 10,000 procedures in Kirksville, Burlington, Iowa, and Quincy, Ill.

Miller, who underwent PRK, said LASIK is a type of surgery that always is advancing and is a favorable alternative to wearing glasses and contacts for many people.

**"The concept of LASIK"**

Miller said one of the biggest benefits to receiving LASIK is that it eliminates inconveniences and is a quick and simple process. He said the actual surgery takes about 10 to 15 minutes and is performed in the office. Patients are given topical anesthesia — numbing eye drops — and within 24 hours, most people have healed completely and can go back to their everyday activities.

The innovative tool that makes LASIK so popular and easy to do is the excimer laser used in conjunction with the other technology to engrave a patient's prescription into his or her corneas, Miller said.

"The concept of LASIK, in a very primitive way, is to reshape the cornea," he said. "The cornea is the primary lens that focuses vision and light back onto the retina."

An excimer laser also can be used to remove any tiny abrasions on the surface of the eye, Miller said.

"The cornea is about the thickness of a credit card, although it has a curvature to it," he said. "LASIK involves, by definition, creating a flap in the cornea. If we took a credit card — or the cornea — and we have an instrument that goes across and creates this flap maybe about a third of the way through the thickness of the cornea, [it's] almost as if you were opening a can of peas with a can opener."

Miller said the laser does not take the entire layer off, but rather leaves a hinge on the top third of the cornea and leaves the rest of the cornea to



work with during surgery. Next, he said he enters the prescription into the laser's memory and inscribes it onto the stroma, the flat part of the cornea.

"What the laser is doing is almost like a mild sanding tool," he said. "It's removing tissue with no heat, but with energy. ...When that is done,

then the flap, which is still hinged onto the cornea, is put in position, and it adheres to itself almost like a Velcro surface."

**"Weigh the benefits"**

LASIK patients can be a variety of ages, but Miller said 35 is an average age for a person to receive LASIK and

people under 18 are not recommended to undergo the procedure. Miller said a lot of this has to do with being able to afford it.

"People who maybe are on their own, are more fiscally fit, have saved money or have the ability to take on a certain amount of debt to do this [may be more

equipped]," he said.

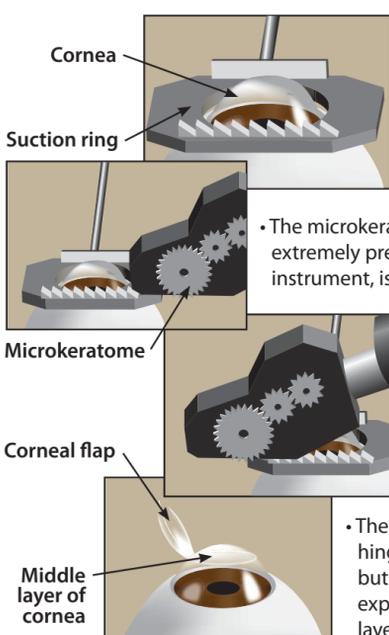
Patients considering LASIK should have a stable prescription that hasn't changed for at least a year, a good medical history and have not had any injuries or infections in their eyes for at least a year, according to [www.docshop.com](http://www.docshop.com).

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## LASIK basics

**LASIK facts:**

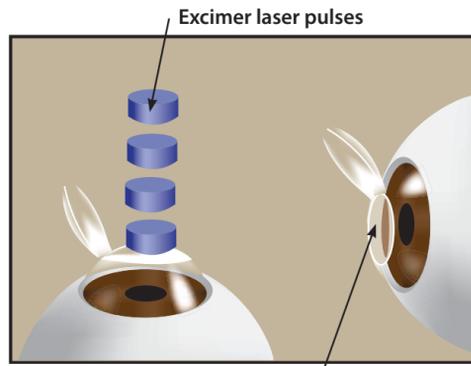
- The excimer laser is precise enough to slice a human hair lengthwise.
- Patients remain awake during LASIK surgery, but they are given anesthetic eyedrops and an anxiety-reducer like Valium. The eyelids must be kept open with tape and a speculum.
- Because of the extraordinary healing power of the cornea, the flap begins healing over the newly reshaped cornea immediately, without the need for glue or stitches.



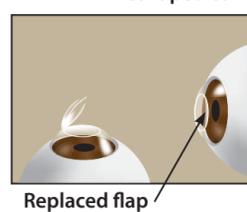
• Anesthetic eyedrops are added to the eye, and a suction ring is centered around the iris to keep the eye still.

• The microkeratome, an extremely precise cutting instrument, is placed in the guide tracks and shaves off a flap of the outer layer of the cornea.

• The flap remains hinged to the cornea but is peeled back to expose the middle layer of the cornea.



• To correct for myopia, or near-sightedness, a pulsating excimer laser then flattens the center of the cornea by vaporizing the tissue at a precisely controlled rate. (LASIK can also correct for hyperopia, or near-sightedness and astigmatism by adjusting how the laser reshapes the cornea).



• Antibiotic drops are added to prevent infection, and the flap is replaced over the cornea. If reshaped correctly, the cornea will now focus light rays on the retina, and the patient will have clear vision.

Source: [www.lasersite.com](http://www.lasersite.com)

Photos by Mark Hardy, design and illustrations by design staff/Index

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