Barnet·Dulaney·Perkins
EYE CENTER

LASIK AND BEYOND:

LATEST ADVANCES IN TECHNOLOGY AND SURGERY OPTIONS

REVOLUTIONARY

Developments in technology have revolutionized every industry, including eye care and surgery. Techniques and tools that were at the forefront a decade ago are giving way to even newer and more progressive approaches today.

What that means for your eyes is this: Pre-eminent eye surgeons now have access to technology superior to that in the past, which means surgery techniques have changed and outcomes can be even better. The LASIK surgery you may be familiar with has grown into an even more sophisticated version, while new procedures now exist for when LASIK is recommended. For instance, EVO Implantable Contact Lenses (ICL) help those who have dry eye syndrome or severe nearsightedness.

Read on to learn about these and other developments in the eye-care industry. Remember, you and your doctors have the same objective in mind: the clearest vision possible. One place to begin is with a LASIK candidacy questionnaire, which you can find here.

The questionnaire will ask you some basic questions about your current vision needs.

"LASIK is a safe and effective way to improve your vision and become less dependent on glasses and contacts.

AARON AMACHER III, MD, FACS

WHY NEW TECHNOLOGY MATTERS WHEN IMPROVING YOUR EYESIGHT

Refractive surgery is surgery that corrects your vision so that you no longer need glasses or contacts, and LASIK – the term stands for laser-assisted in-situ keratomileusis – continues to be the most popular refractive surgery, due to its wide acceptance and patients' satisfaction with their surgical outcomes.

Leading-edge technology today begins with the laser that a surgeon uses. Barnet Dulaney Perkins Eye Center uses the WaveLight Allegretto Wave Eye-Q laser, a laser approved by the FDA for topography-guided laser vision correction. Its advancements include a super-fine laser beam that centers automatically and an eye-tracker that notes even minuscule eye movements before laser pulses begin.

If you first learned about LASIK years ago, you're probably more familiar with previous versions of the surgery. In earlier years of LASIK, surgeons numbed the eye with anesthetic eye drops and then used a tool called a mechanical microkeratome to cut a thin, hinged flap into the cornea. The flap was folded back, and the surgeon guided an excimer laser over the middle of the cornea to reshape it. Unlike earlier lasers, excimer lasers could make vision corrections without harming nearby tissue. When finished, the corneal flap was laid back into place, where it would heal on its own.

Femtosecond lasers use energy to replace a microkeratome blade when cutting the corneal flap. Our femtosecond lasers are more precise in many situations. This means, among other things, that even people with thin corneas – some who were previously unable to have LASIK – may now qualify as a candidate for the procedure.

Newer yet was a laser platform called a "wavefront guided laser," which offered surgeons eye measurements in smaller increments and mapped how light traveled through the eye and landed on the retina. With this information, the laser had a path as individual as a fingerprint to follow.

Today, the surgeons at Barnet Dulaney Perkins Eye Center use Contoura Vision/Topography-Guided LASIK, which measures the curvature and characteristics of the surface of your eye to a degree not possible with previous technology.

Think of a topographic map of the United States – the layers build up where there are hills and mountains, recede where there are valleys or lakes, and curve where the landscape has sculpted itself around a fixed object. The topography of your eye is similar, in miniature, and topography-guided LASIK can follow that individual map of your eye.

When Contoura Vision/Topography-Guided Lasik was studied in clinical trials, researchers saw the following results:

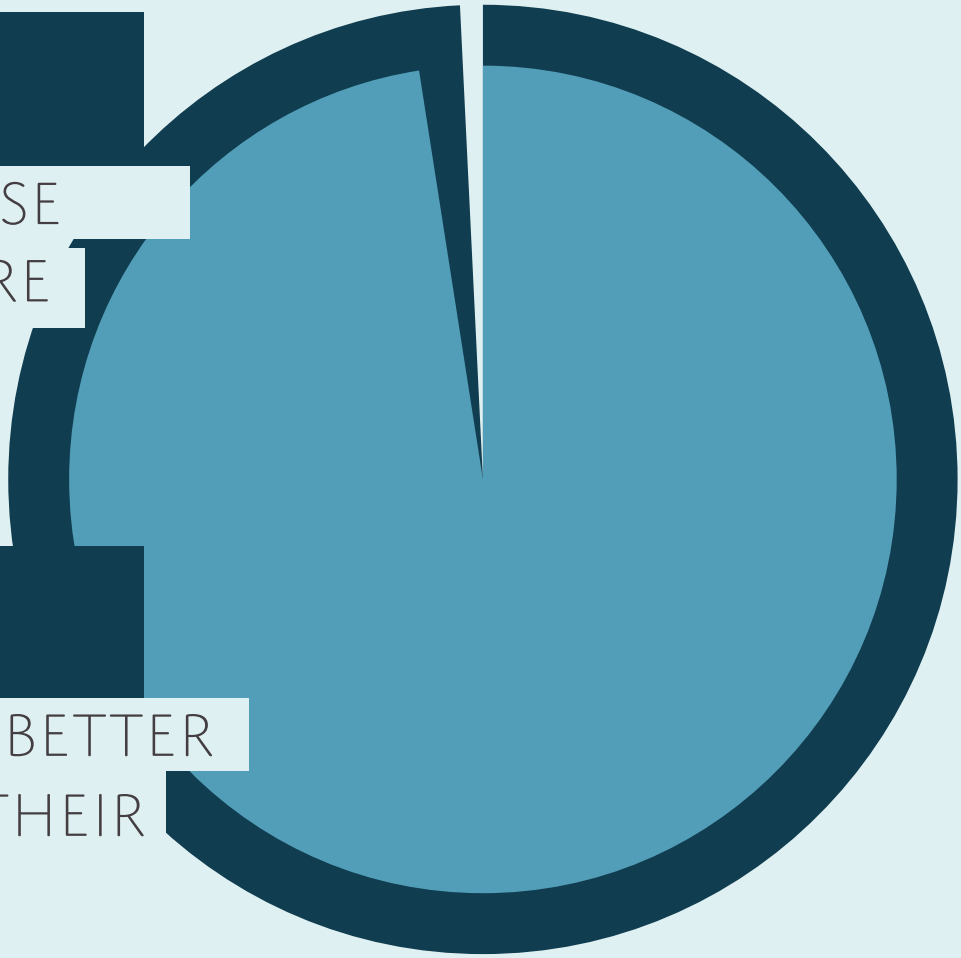
- The new technology reduced the number of post-operative complaints about glare, sensitivity to light and difficulty with night driving due to a halo effect.
- **92 percent of patients had 20/20 or better vision after their procedure.**
- **98 percent of patients said they would choose the procedure again.**

Technological progress always brings with it the question of what went before – were old procedures bad? The short answer is: No.

In LASIK's case, there have long been high success rates and high numbers of satisfied patients. But when a technological development makes an even more sophisticated and precise result achievable, it is the option a surgeon will favor. The surgeons at Barnet Dulaney Perkins Eye Center use topography-guided LASIK tools, consistent with their belief that it is the best and safest option available.

98%

WOULD CHOOSE THE PROCEDURE AGAIN



92%

HAD 20/20 OR BETTER VISION AFTER THEIR PROCEDURE

Call us at 602–975-7979 to speak with a patient representative.

WHEN THE EVO IMPLANTABLE CONTACT LENS (ICL) IS NEEDED INSTEAD

Not everyone is a candidate for LASIK surgery. People with extremely thin corneas, for instance, those prone to dry eye syndrome or those who have extreme prescription correction needs may not get the vision correction results they seek. But there are significant technological developments in other aspects of eye surgery that can help these patients.

One of the best technologies available has its roots in the treatment of an old condition: cataracts. A cataract happens when the natural lens we are born with get clouded over, affecting the clarity of our vision and our impressions of light and color. In cataract surgery, tiny incisions are made near the edge of the cornea, allowing the surgeon to remove the clouded lens and insert a new, clear lens, called an intraocular lens (IOL). The lens takes over where your old lens was, refracting light back toward the retina. Your sight improves immediately, because the clouded lens is gone.

Unlike the procedure in cataract surgery, the patient's natural lens is left in the eye. The EVO Visian Implantable Contact Lens works with that lens to improve your sight. Most patients never need further adjustment or surgery on it. In a case where a patient's prescription needs are drastically altered, however, the ICL is removable and replaceable. Barnet Dulaney Perkins Eye Center was the first practice in the Southwest to offer STAAR Surgical's EVO Visian ICL Lenses.

Now, implantable contact lenses (ICL) are available to people who do not have cataracts, but want to improve their vision. Instead of altering the outer surface of the eye, implantable contact lenses correct a patient's vision from inside the eye. No change takes place on the cornea.

Vision improvement with implantable contact lenses will be immediate.

WHY ARE ICL'S SUITABLE IN PATIENTS WHEN LASIK SURGERY IS NOT?

It will help if you understand the cornea a little bit. Your cornea is the transparent, outer, dome-shaped, protective surface of your eye. It is made up of membranes, tissue and fluid. Your cornea has a curvature that, in the best possible circumstances, bounces light back through the pupil and through the natural lens toward the retina, focusing it at exactly the right angle.

However, if the curvature of your eye is off, your cornea can bounce light too far in front of or too far in back of the retina to focus clearly. If your eye focuses the light before it reaches the retina, you are nearsighted. If your eye focuses the light behind where it hits the retina, you are farsighted.

LASIK surgery, therefore, adjusts that outer surface of the cornea, making the light refract properly. In the following cases, however, LASIK may not always be appropriate:

- **Patients with thin corneas:** The concern about whether a patient's corneas are too thin for LASIK surgery is logical; since a flap must be cut in the cornea and folded back before the laser is used, there will be less corneal tissue for the surgeon to work with. Because Visian implantable contact lenses are placed inside the eye, there is no change to the cornea at all.
- **Patients with dry-eye syndrome:** A person gets dry-eye syndrome when their eyes fail to naturally produce enough tears. It sometimes happens with aging, but also can accompany some medical conditions, such as Sjogren's syndrome, diabetes and lupus, and some medications. Because LASIK surgery often can produce temporary dry-eye symptoms, doctors don't want to make an already uncomfortable condition worse. Implantable contact lenses, however, do not contribute to dry eye syndrome.
- **Patients needing extreme prescription correction:** Because LASIK corrects vision by altering the surface of the cornea, there are limits to the degree of myopia, or nearsightedness that can be corrected. The United States has approved LASIK treatment for a prescription up to -15 diopters (D), but some doctors believe -8 D should be the limit. **Evo implantable lenses**, however, can be used in cases of extreme refractive error.

*EVO ICL

WHAT IF I WEAR READING GLASSES?

A natural part of aging, presbyopia makes it harder to focus on close objects – like that menu or medicine bottle. In presbyopia, the natural lens is hardening, and becomes no longer able to precisely focus light back to the retina as needed.

The need for reading glasses is so common – and the task of buying them for a few dollars without a prescription is so simple – that we tend to think of presbyopia as minor.

But when you really need them, dealing with reading glasses can seem frustrating and constant. You're always putting them on, then taking them off; misplacing them, then buying new ones.

One defense mechanism is to buy several pairs and leave them all over – at work, another in your car, at home on your desk, in the kitchen and on your nightstand. It's a good strategy, but there are still times you can't find a pair.

It's always been a hassle, with little to do except buy more pairs of readers. Lens replacement surgery may be a better option for people with presbyopia and high hyperopia (farsightedness).

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WHAT IS REFRACTIVE LENS EXCHANGE (RLE)?

During refractive lens exchange surgery, your eye's natural lens is gently removed through a sutureless microscopic incision. It is replaced with an artificial lens, also known an intraocular lens (IOL), which is specially designed to enable clear vision at all distances, usually with minimal or no need for glasses or contact lenses.

Your eye surgeon should have experience with all currently available Advanced Technology IOLs, such as the Trifocal lens, ReSTOR multifocal, Tecnis Symfony, and the Crystalens, and can recommend the best one for you based on your lifestyle and visual needs.

Some of the most up to date technologies, including the LenSx femtosecond laser and Optiwave Refractive Analysis (ORA), provide an analysis of your eye during the lens replacement procedure, which is not possible with conventional measurements and instruments. The technology works by directing a beam of low intensity laser light into the eye during surgery. The laser light then reflects off the back of your eye and sensors in the device analyze the reflected wave of light exiting your eye.

This real-time analysis measures all of the eye's unique optical characteristics, allowing the surgeon to address minor astigmatism, while providing an accurate measurement of your eye's focusing capabilities.

The LenSx femtosecond laser is designed to improve safety and precision during certain challenging and delicate steps of lens replacement surgery that were previously performed manually. The precise, reproducible steps performed by the LenSx laser contributes to better lens positioning, less trauma to the eye, and more predictable visual results, which are especially important with Advanced Technology IOLs.

Furthermore, lens replacement comes with the added bonus of eliminating the need for future cataract surgery.

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WHY DO LASIK, ICL COSTS VARY SO MUCH?

This can be confusing to anyone. Maybe you've had a consultation with an eye surgeon for LASIK who quoted you one cost, and later that day you see an advertisement for "Cheap LASIK," or "Low-Cost LASIK," or "LASIK starting at $299 per eye." How can the cost vary so widely? There are multiple factors here:

- **What's behind the advertising:** We all understand the concept of a low price on a car that gets someone in the front door of a dealership, but once they get there the specific the car is gone. Other cars are available, but all are more expensive. It's called bait-and-switch, and it can be the same with LASIK advertisements. You may walk in the door hoping to pay $600 to have LASIK on both eyes, but walk out with a much higher cost because your eyes require a higher level of correction, because you choose a specific kind of procedure or because of add-on fees. (The advertised cost may not include all required pre- and post-op visits, maybe different technologies are offered, or lifetime commitments may cost extra.)
- **The technology:** Is your surgeon using the latest, most precise laser machines available? Since LASIK technology has been upgraded several times over the years, there may be many older machines still in use that, while still operable, may not give you the results available with newer technology today. The cost of new technology does bring the price up, but the improvement in the procedure and in your resulting vision are what matter most.
- **The experience of your surgeon:** New surgeons must start somewhere, but you'd rather it not be on your eyes. An experienced LASIK surgeon may have done 10,000 to 25,000 procedures or more.

> *"The amount you pay for your LASIK surgery doesn't start or stop with the 10 or 15 minutes you are in surgery. It includes pre-op consultations, tests and examinations; prescription eye drops; the procedure itself; post-op consultation and checks, and surgery enhancements if needed.*

DOES INSURANCE COVER LASIK?

Some insurance companies may cover some of the cost of LASIK, but most do not, primarily because it's seen as an elective procedure. However, some of the nation's biggest insurance providers have negotiated with LASIK providers for a discount, so ask your surgeon if this is available with yours.

If you have flexible spending accounts with your employer – accounts where you can set aside pre-tax dollars for medical costs – it's worth using that advantage to help pay for your eye surgery.

In any case, should the cost of your LASIK surgery exceed your flexible spending or insurance coverage, most eye surgery centers make financing options available. One such option is Care Credit, a healthcare financing company that offers payback programs (such as reduced APR or longer-term fixed monthly payments) that are not available through an ordinary credit card.

You must choose based on what's best for your eyes, not just the bottom line. Your vision is worth that.

MAKING YOUR DECISION

If you are considering vision correction surgery today, you want surgeons with the most experience, state-of-the-art technology and peerless aftercare. For LASIK surgery, that choice right now is topography-guided LASIK, where even the infinitesimal characteristics of your unique eye are factored into the machine's calculations about how to improve your eyesight.

The cost may seem substantial, but the payoffs are more so. Being able to do such things as wake up in the morning and see what time it is, read the paper, watch the television, drive to work and go to the gym at lunchtime – all without glasses – pay everyday dividends that reach far into the future.

If you have more questions or are interested in more information about LASIK surgery, implantable contact lenses or vision inlays to correct presbyopia, the staff at Barnet Dulaney Perkins Eye Center wants to help.

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