CLEAR ANSWERS ABOUT

Laser Vision Correction and LASIK

VANCE THOMPSON VISION

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What’s the most important part of your surgery?

Quite simply, your doctor and the technology he or she uses. In laser or implant vision correction, experience and expertise are key factors in yielding excellent results.

The team at Vance Thompson Vision takes pride in being world leaders in quality vision correction and setting global standards for care. In addition to their precise techniques, training and distinctions—like having the region’s only doctor team Fellowship Trained in Corneal and Refractive Surgery—they lead the way in the future of laser and vision correction with extensive research and a commitment to using only the most advanced technology available.
What is Laser Vision Correction?

Laser vision correction involves using a precise computer-controlled laser to gently reshape the cornea, allowing light rays to focus more directly on the retina and ultimately reducing your dependence on corrective lenses. The in-office procedure lasts only a few minutes per eye, and most patients can return to work the next day. Laser vision correction can correct refractive errors such as nearsightedness, farsightedness and astigmatism.

Vance Thompson Vision has participated in more than 40 FDA-monitored clinical trials, including the FDA’s monitoring investigation phase at the birth of LASIK technology. As part of a small, elite group of surgeons, Vance Thompson Vision helped introduce laser flap technology to the United States and the world.

In addition, Vance Thompson Vision was the second surgical center in the world to perform Custom LASIK in conjunction with IntraLASIK technology, and the team continues to lead the way for the future of laser and implant vision correction.

“It’s the detail that shocked me. Colors are more vibrant... everything is so crisp.”
—Lyndon Hurley, BUSINESS OWNER
How Vision Works
Understanding how laser vision correction improves vision requires a basic knowledge of refractive errors and how the eye focuses light. To focus light rays, the eye depends on two major focusing elements: the cornea (the outer surface of the eye) and the lens (inside the eye). In an ideal eye, the cornea and the lens work together to focus light rays onto a pinpoint image on the retina. If light rays do not focus directly on the retina, the eye will be nearsighted, farsighted or astigmatic.

Ideal Vision: Light rays coming through the cornea and lens converge and focus perfectly on the retina.

Refractive Errors: Nearsightedness People who are nearsighted see near objects more clearly than distant ones. In the nearsighted eye, the cornea is steeper or the eye is slightly longer than normal, so light rays converge and focus in front of the retina.

Farsightedness People who are farsighted see distant objects more clearly; however, all objects may be blurred. In the farsighted eye, the cornea is flatter or the eye is slightly shorter than normal, so light rays do not have enough space to converge and focus.
LASIK, an acronym for “laser-assisted in situ keratomileusis,” includes all procedures that utilize the Excimer laser to reshape the cornea. Vance Thompson Vision specializes in LASIK technology, which includes the latest innovations of LASIK: IntraLASIK and Custom Lasik.

Astigmatism
Astigmatism is the inability to focus clearly at any distance because of an irregular or misshapen cornea. Light rays focus at various points within the eye causing distorted vision. Astigmatism is often combined with nearsightedness and farsightedness.

The LASIK Procedure
In preparation for the actual surgery, your eyes will be numbed with anesthetic eye drops. The surgeon will then place an eyelid holder between your eyelids to prevent you from blinking during the procedure. Next, a thin protective flap is made in the cornea. While some centers make this flap with a handheld, razor sharp blade called a “microkeratome,” the surgeons at Vance Thompson Vision give you the option of using the microkeratome or a newer way of making the flap: a laser. After the flap is created, the surgeon folds it back out of the way, then gently reshapes the exposed cornea with a
cool Excimer laser. The actual procedure only lasts a few minutes per eye. When the cornea is reshaped properly, it works better to focus light into the eye and onto the retina, providing clearer vision than before. Following the laser correction, the flap is laid back in place, where it will bond with your eye without the need for stitches. Most people can return to work within 24 hours.

**Completely Bladeless LASIK**

With femtosecond laser technology, LASIK is a completely bladeless approach to refractive surgery that is even more precise than traditional LASIK. LASIK is essentially a two-step procedure. The first step is the creation of a thin protective flap on your cornea, and the second is the actual correction of your vision, as a laser beam gently reshapes the cornea. Until recently, the traditional LASIK flap was created with a handheld blade, but with femtosecond laser technology, the flap is formed using a computer-controlled laser. The result is a safer, incredibly accurate, less invasive approach to the flap creation step in the LASIK procedure.

Because bladeless LASIK affords the surgeon greater precision and predictability in creating the flap than traditional LASIK, each flap is more specifically designed and therefore able to be more securely repositioned. The accuracy of this computer-controlled procedure significantly reduces the possibility of complications.
Not only has bladeless LASIK made vision correction more exact and predictable, but its unique level of precision also makes it more accommodating to patients who may not have been candidates for laser vision correction in the past. Through its increased accuracy and safety, this technology allows for correction even in cases of above-average pupil size, thinner corneas and higher corrections.

**The Custom LASIK Procedure**

While most centers have only recently invested in this world class technology, Vance Thompson Vision was one of the first centers to use femtosecond technology to create the initial LASIK flap. Since 2001, femtosecond technology has been the standard of care and Vance Thompson Vision boasts four different femtosecond laser technologies with exacting specifications for your eye.

Custom LASIK is the first FDA-approved LASIK procedure customized to your vision. Not only can this procedure correct your vision, but in many cases, Custom LASIK can actually improve it. How? This procedure effectively maps your eye’s unique visual irregularities to include those that cannot be addressed by glasses, contact lenses or conventional laser surgery.

Visual irregularities, such as nearsightedness, farsightedness and astigmatism—all known as “lower order aberrations”—are responsible for approximately 90% of your visual blur. The remaining distortions in your vision are a result of other unique
imperfections in your eye called “higher order aberrations,” which affect the overall clarity of your vision, especially in low-light situations. Until recently, laser vision correction—like correction via glasses and/or contacts—was only able to correct lower order aberrations. However, with revolutionary new Wavefront technology, our doctors are now able to generate a unique structural map of your eye. This technology ultimately enables the doctor to correct both the higher and lower order aberrations with the Wavefront-adjusted treatment.

Preparation for the Custom LASIK procedure begins by using the Wavefront device to transmit a ray of light into the eye. When the light is reflected off the retina, it travels back through the cornea and the lens and is picked up again by the Wavefront device. This device uses the light to cast all of the eye’s irregularities as a 3-D image, known as a Wavefront map. This Wavefront map serves as an optical fingerprint of your vision, allowing our surgeons to treat your lower and higher aberrations. LASIK has always been a two-step process. With traditional LASIK,

Vance Thompson Vision was the second surgical center in the world to perform the Custom LASIK procedure in conjunction with the first bladeless LASIK technology.
a handheld blade is used to create the flap, and a laser is then used to shape the cornea. But Custom LASIK (combined with bladeless femtosecond laser technology—the most precise LASIK procedure ever) uses a computerized laser both to create the flap and shape the cornea. Custom LASIK is the first and only completely bladeless LASIK procedure to utilize an all-laser approach, both to make the corneal flap and customize the correction through Wavefront-guided technology.

With multiple laser platforms, we better address your unique eyes. For vision correction, we use the Wavelight Allegretto 500 khz in addition to the VisX Star V. For flap making, we have the IntraLase IFS and the Wavelight FS500 among other laser options.

PRK
PRK, or Photorefractive Keratectomy, differs from LASIK in that it does not involve the creation of a corneal flap. The Excimer laser beam is applied directly to the surface of the cornea. By eliminating the flap creation step, the risk of flap complications is eliminated allowing for a very safe, very precise correction.

The PRK Procedure
In preparation for surgery, your eye will be numbed with anesthetic eye drops. Once your eye is numb, our surgeon will place an eyelid holder between your eyelids to prevent blinking during the procedure. The surgeon will then delicately remove the epithelium, a thin layer of skin that makes up the protective outer layer of the cornea. At this point, a precise, computer-controlled
laser beam will be applied to reshape the exposed cornea, according to specific calculations taken in your pre-operative exam. Within seconds, millions of laser pulses will reshape your cornea to correct the specific refractive error. After completion of the surgery, a bandage contact lens will be placed on your eye for improved comfort. Because there is no protective flap created as in the LASIK procedure, it usually takes three to five days for the outer epithelium layer to re-grow over the cornea. During that period, you may experience mild discomfort and sensitivity.

**Custom and Conventional PRK**
During your pre-operative consultation at Vance Thompson Vision, our doctors will recommend that you consider either a conventional PRK correction or a custom PRK correction. The difference between the two procedures involves the amount of unique visual irregularities that are present in your cornea and lens.

Custom PRK corrects those irregularities that cannot be addressed by glasses, contact lenses or conventional laser surgery. These distortions, called “aberrations,” are classified as lower order aberrations or higher order aberrations. Lower order aberrations including nearsightedness, farsightedness and astigmatism are responsible for approximately 90% of your visual blur. Higher order aberrations account for the remaining blur and affect the clarity of your vision, especially in low-light situations. Custom PRK technology uses highly sophisticated instrumentation to generate a structural map of both your lower and higher order aberrations. Then, our laser radar tracking device tracks the eye to guide the laser to precisely reshape your cornea. The goal of Custom PRK is to give you better results than conventional PRK correction.
Frequently Asked Questions

How long have you been performing laser vision correction?
The Vance Thompson Vision surgical team has been performing laser vision correction since 1991.

How many operations have you performed?
At the time of this printing, we have completed more than 60,000 surgical procedures. Our surgeons are among the most experienced in the world.

Can you guarantee 20/20 vision?
Unfortunately, no surgical procedure can be guaranteed. Instead of hoping to forever eliminate your need for corrective lenses, a more realistic goal is to reduce your dependence on glasses and contact lenses. Most patients do not need glasses for distance vision.

How many patients require enhancements or re-treatment?
Because of our surgeons’ innovative techniques, we are able to treat people requiring high amounts of correction. Those with higher degrees of correction can expect higher probabilities of requiring re-treatment. People with average or moderate degrees of correction can expect a 5-10% chance of needing an enhancement. Those who undergo very high amounts of correction can expect increased chances that touch-up treatment will be required.

What is the cost if enhancement treatment is required?
If our surgeons perform your initial treatment, recommended re-treatment or enhancement surgery is free of charge for two years—as long as you are under the care of your optometric physician and are examined annually.

How much does the surgeon’s skill have to do with good results?
Some people mistakenly assume that with the high-tech instruments used for LASIK, the surgeon’s role in achieving superb outcomes is...
minimal. This is not the case. The surgeon’s skill and judgment are the most critical factors in achieving excellent visual outcomes with LASIK. The surgeon’s experience and expertise become even more crucial in the occurrence of an intraoperative complication. Although the equipment is highly sophisticated, the surgeon is directly involved in positioning the instruments and aligning your eye under the laser. We have learned that the accuracy and impeccable precision of numerous small details—controlled by the surgeon—are the key to achieving excellent outcomes.

Are some lasers better than others?
Different lasers have different strengths and weaknesses. Most surgery centers offer only one laser. At Vance Thompson Vision, we offer several. We adjust our plan and laser to you, instead of fitting your eye to our equipment. We combine the best surgeons and best technology so you have the best outcome.

How often are your lasers calibrated?
We constantly monitor calibration and make tiny adjustments, if needed, between cases. Rather than being dependent on the manufacturer’s service calls, our advanced laser technicians keep our instruments maintained and precisely calibrated at all times. You may be comforted to know that our maintenance and calibration specifications even exceed those provided by the laser manufacturer.

How long do you require contact lenses to be removed before treatment?
Because contact lenses modify the shape of the cornea, they must be left out long enough for your eyes to return to their natural shape, which is usually around two weeks. Ask our office or your eye doctor how long you should discontinue wearing them before your evaluation and surgery.

Can I make monthly payments?
Yes. We offer flexible monthly payment plans
with excellent terms. For more details, call our Refractive Surgery Counselors toll-free at 1-877-522-EYES.

Why do I need follow-up care with my optometrist after surgery?
To achieve the best possible visual outcome, it is very important that your eyes are carefully examined and your vision is closely monitored during your recovery. Examinations are prescribed at significant intervals to ensure proper healing and stability of vision. Follow-up care involves monitoring:

- the condition and healing of the flap
- your eye medications
- your internal eye pressure
- possible infection and healing complications
- your uncorrected and best corrected vision
- the need for enhancements
- any near vision problems
- the continued health of your eyes

Will your doctors do all my follow-up care?
Our doctors will work in close communication with your family eye doctor to coordinate your follow-up care. We are focused on providing specialized surgical eye care, and the patients we treat are referred back to the care of their family eye doctor as soon as their condition is stable. Should any complication arise, we will work closely with your doctor and be available for any care you may require.

If I am thinking about LASIK, why is my eye doctor the best place to start?
One of the reasons your eye doctor can best determine if you are a candidate for LASIK is because he or she has followed your eye care needs and knows your vision history. Their pre-operative input and post-operative care is integral to obtaining a satisfactory result. Eye doctors regularly provide before and after LASIK care. Over time, they have been able to see first-hand the outcomes of numerous surgeons. This unique opportunity gives your eye doctor excellent knowledge to help guide you to
surgeons who consistently obtain excellent results with minimal complications.

Does my eye doctor have a financial incentive to refer to your surgeons?
No. Doctors who provide before- and after-surgery care establish their fees based on the care they provide. No portion of our fee for LASIK is shared with referring doctors. We have also purposely steered clear of shared ownership of our lasers and facilities with other eye doctors to prevent the possibility of financial incentive for referrals. The relationship we have with doctors who trust us with their patients has been built by providing years of consistent, excellent care.

Does LASIK hurt?
No. Your eyes will be numb from the anesthetic eye drops, so you will feel minimal, if any, discomfort. You will feel a slight pressure sensation—like someone resting a finger on top of your closed eyelid—for a few seconds, while the flap is created.

How long does the treatment take?
Although the actual laser time is usually less than one minute per eye, patients are in the laser suite for approximately 10–15 minutes for both eyes. However, there is some preparation time before surgery, as we double-check critical eye measurements and perform additional tests. Plan to be in our office for two to three hours on the day of your treatment.

How will I keep my eyes open and still during surgery?
The surgeon gently inserts a device that assists in keeping your eyes open during the procedure. Then, advanced-tracking technology follows every eye movement to make sure every laser pulse is placed in an accurate location.

Who can I talk to about my LASIK questions?
The best sources of information are your eye doctor and our Refractive Surgery Counselors. You can call our counselors toll-free at 1-877-522-EYES.
At Vance Thompson Vision, we’re dedicated to using the world’s best technology in combination with our vast experience to help you see and enjoy life more clearly. To set up an appointment or ask us a few questions, please email or call today.

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Appointments
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