



LASER CENTER FOR VISION
ZALE LIPSHY UNIVERSITY HOSPITAL
SOUTHWESTERN MEDICAL CENTER

LASER VISION CORRECTION SURGERY
LASIK

This handout is given to you as an overview of Laser Refractive Surgery. It is to supplement additional material you will receive. Please carefully read and review all material.

The ophthalmologist or someone from the staff of the Laser Center for Vision will be available to answer any questions or respond to any concerns you may have.

THE DAY OF THE PROCEDURE

It is understandable to feel a little nervous or apprehensive when the time for your procedure finally arrives. You will surely feel excited, too. This mixed emotional response is completely normal and natural.

You may eat or drink normally prior to the procedure. In addition, if you are on any medications, you may take them as you normally do. Of course, you should have already advised the ophthalmologist or someone on his/her staff about your use of these medications. However, do not consume alcohol or take any sedative or similar medications that could make you drowsy before or during the procedure.

You will be staying in your street clothes, so be sure to wear something comfortable. Do not wear facial or eye makeup, cologne, or aftershave. You will need a driver to take you home after the procedure and the following couple of days for your postoperative visits.

THE PROCEDURE

Please arrive at the time of your scheduled appointment to provide an adequate period for pre and post operative instruction and administration of pre-procedure medication. You will begin eye drop medications about 30 minutes prior to the procedure. These may include:

- Anti-inflammatory eye drops
- Antibiotic eye drops
- Anesthetic eye drops

You will not receive a general anesthetic. The anxiety you may feel can actually prove beneficial, because it will keep you alert so that you will be able to concentrate on the red fixation light during the procedure.

Once all preoperative preparation is complete your lids will be cleansed with a Betadine solution. You will then be taken to the laser room. At this point, the laser computer will already be programmed with your prescribed correction. You will be seated in the treatment chair and your hair will be covered with a cap. The chair is then adjusted under the laser, a sterile drape is placed over the eye to be treated, and anesthetic eye drops are instilled.

Then an instrument called an eyelid speculum will be placed between your upper and lower eyelids to prevent you from blinking. The speculum is designed to aspirate fluid away from your eye, so you may hear a hissing noise similar to the straw at the dentist's office. A small reference mark is made on your cornea and then a corneal ring is placed over your pupil. You will hear the microkeratome motor and you may feel the sensation of pressure. Your vision will be obscured at this time. The microkeratome creates a corneal flap, the corneal ring is removed and you are now ready to have the laser treatment.

You will be asked to stare at the blinking red light. The ophthalmologist will activate the excimer laser and begin reshaping the cornea. When the laser is in use, you will be asked to keep your eye as still as possible. The laser has a tracking device, which will adjust, for your eye movements and the ophthalmologist can instantly stop the laser at any time during the procedure if eye movement is excessive. Total laser time for most patients is less than one minute per eye. The ophthalmologist will keep you informed throughout the procedure. During the procedure, you will notice distinctive sounds and smells. For example, the machine makes a clicking or snapping noise when in use. The ophthalmologist will let you know before engaging the laser so you will not startle. Use of the laser also produces odd, somewhat unpleasant odor. Some patients have described it as the smell of burning hair. This can be alleviated by breathing through your mouth. However, there is no burning with the excimer laser; the excimer laser is a cold laser, which produces an ultraviolet beam of light.

Once reshaping of the cornea is complete, the corneal flap is repositioned and approximately five minutes of time elapses for the corneal flap to dry in place. The eyelid speculum is removed and you will be asked to blink several times.

Antibiotic eye drops are instilled and a clear shield will be placed over the treated eye.

Before you leave, we will supply you with a kit containing eye drops and instructions for your postoperative care.

FOLLOW UP EXPECTATIONS AND CARE

Upon returning home after the procedure, you should plan to rest. You should also use your eye drops as instructed. Your eye may water excessively and you may start feeling some discomfort 30 to 90 minutes after the procedure as the anesthetic drops wear off. Many patients experience mild discomfort for a few days following laser procedures, although patient reactions range from no discomfort at all to moderate pain. Most patients who have discomfort describe it as the sensation of having something underneath a contact lens or of having an eyelash or sand in their eye.

Use medications as prescribed and follow all postoperative instructions that are supplied in your discharge.

WHAT HAPPENS IN THE COMING WEEKS

Your vision should start to improve. While a 20/20 result is not likely right away and in some cases may not be possible, you should see a gradual increase in visual acuity.

Your vision may continue to be blurry for a number of weeks after the procedure. For many patients, stable vision is achieved within three months. However, some patients take six months or longer to achieve vision that does not fluctuate slightly from day to day.

You may also become a little farsighted immediately after the procedure. This is normal, and you should notice an improvement in your distance vision before your near vision.

Following laser vision correction, you may still need glasses or contact lenses to achieve satisfactory vision. In addition, if you are over 40 years of age, you are likely to still need reading glasses. This type of age-related vision problem has nothing to do with the shape of your cornea and cannot be corrected through laser vision correction.

Some patients, especially those who have had severe myopia corrected, experience night glare after the procedure. Night glare generally disappears over time.

ACTIVITY RESTRICTIONS

- You should comply with the following activity restrictions following your laser vision correction procedure:
- Do not drive for the first 24 hours after the procedure. Thereafter, refrain from driving until you are sure your vision does not create a safety concern.
- Do not swim, use hot tubs, or whirlpools for at least five days. (Note: FDA recommends eight weeks.)
- Avoid any activities that could cause you to get dirt or dust in your eyes, like gardening.
- Avoid getting shampoo in your eyes while bathing or showering.
- If you smoke, keep smoke out of your eyes to avoid irritation.
- Do not rub or hit the treated eye!
- Avoid light exercise for at least two days following the procedure. FDA guidelines recommend avoiding strenuous exercise or contact sports for four weeks.

RISKS AND OTHER CONSIDERATIONS

Risks and discomforts that might be associated with the laser vision correction procedures are as follows:

- 1. Discomfort.** Many patients experience mild discomfort for the first three to four hours following LASIK, although patient reactions range from no discomfort at all to moderate pain. You may experience some tearing and light sensitivity. Most patients who have discomfort, describe it as the sensation of having sand or an eyelash in their eyes. It is helpful if you can nap or keep your eyes closed for the first 3-4 hours.
- 2. Blurry Vision.** Vision is variably blurry immediately after the procedure. With LASIK, vision generally starts to improve rapidly after the first 24 hours. However, vision can continue to be blurry after that for a number of weeks. For many patients, stable vision is achieved within 3 months, but some patients take 6 months or longer to achieve stable vision. There can be decreased contrast sensitivity, especially at night or in low light situations.
- 3. Halo Effect.** Some patients may experience a halo effect and/or glare when light refracts at random angles off the edge of the area treated by the laser. The halo effect is particularly noticeable in dim light and as a result, can interfere with night driving.
- 4. Raised Eye Pressure.** Elevation of intraocular pressure can occur in patients as a result of using topical steroid eye drops following laser vision correction. Typically, intraocular pressure returns to normal, with no long term ill effects, once the use of steroid drops has been discontinued. However, if intraocular pressure is elevated on a long-term basis, permanent loss of vision can result.
- 5. Dry Eye Syndrome.** In the first month following LASIK the eyes may be drier than normal. Frequent use of non-preserved artificial tears is recommended, particularly in the first month, and as necessary for comfort and clear vision in subsequent months.
- 6. Under or Over Correction.** Studies in countries where laser vision correction is performed indicate approximately 90% to 95% of patients with mild to moderate myopia who undergo laser vision correction achieve distance vision without glasses or contact lenses of 20/40 or better with one treatment, enough to pass a driver's exam without glasses. There is no guarantee that laser vision correction, for a particular patient, will be successful in providing the desired level of vision correction and glasses may still be necessary for good vision. Glasses may also continue to be necessary for certain activities (such as reading or close work). In some, but not all cases, significant under-corrections can be retreated. Retreatment is usually not performed until at least six months after the original procedure. It is generally not possible to reverse over-corrections.
- 7. Regressions.** In some patients, the vision correction effects of the procedure diminish several months after the procedure. This complication is more common in patients who are very nearsighted. In some, but not all cases of significant regression, another laser procedure helps remedy the effect.
- 8. Presbyopia.** Patients with presbyopia or approaching presbyopia (the need for reading glasses prevalent over 40 years of age) must understand that laser vision correction does not treat age-related process.
- 9. Loss of Best Corrected Visual Acuity.** Some patients can lose the ability to read 1-2 lines on the eye chart in comparison to their previous best-corrected vision. The loss of acuity commonly occurs as a result of microscopic corneal surface irregularities.

Unilateral vs. Bilateral Procedure.

The advantages of having LASIK performed on each eye at a separate time are:

Safety: You will not experience the risk of developing an infection in both eyes at the same time, which although very rare, could lead to significant loss of vision in both eyes. Since the pressure in the eye is increased significantly for a short time during the LASIK procedure, there is a very remote possibility of internal bleeding or damage to the retina which could lead to significant loss of vision or even blindness. Should this happen to both eyes, the consequences of course could be devastating.

It is possible to develop a delayed cloudiness in the cornea or even corneal scarring which is not visible immediately after the procedure. Although this is uncommon and generally clears with time, it can result in significant loss of vision for a prolonged period of time. Should this occur in both eyes at the same time, carrying out normal activities could be difficult.

Accuracy: The doctor can monitor the healing process and visual recovery in the first eye and may be able to make appropriate modifications to the treatment plan for the second eye, increasing the likelihood of a better outcome in the second eye.

Visual Recovery: Although most LASIK patients experience a rapid recovery in their vision, the recovery can at times be delayed. If the eyes are operated, you can function with the fellow eye while the first eye fully recovers. This is especially true if you are able to wear a contact lens in the unoperated eye.

Satisfaction: You will be given the opportunity to determine whether the LASIK procedure has produced satisfactory visual results without loss of vision or other uncommon side effects such as glare, ghost images, or increased light sensitivity. If you are over age 40, you will have the opportunity to experience the change in your close vision, which results from the correction of your nearsightedness. This could influence your decision on whether or not to fully correct your other eye to maintain some degree of close vision without the need for glasses (monovision).

The disadvantages of having LASIK performed on each eye at a separate time are:

Convenience: It may be inconvenient for you to have each eye treated at separate visits. This will necessitate two periods of recovery from the laser surgery and may require additional time away from work.

Visual Recovery: There will be a potential period of imbalance between your eyes. This is especially important if you are unable to wear a contact lens in your unoperated eye. It is not usually possible to use the operated eye without a corrective lens along with a strong corrective lens in the unoperated eye because it produces a strong sense of imbalance, dizziness, and a form of double vision.

The advantages of having LASIK performed on both eyes at the same time are:

Convenience: It may be more convenient to have both eyes treated during the same visit.

Visual Recovery: The balance in vision between your eyes will usually be restored more rapidly. This is especially true if you were unable to wear a contact lens in your unoperated eye.

The risks of having LASIK performed on both eyes at the same time are:

Safety: The risks of infection, delayed clouding of the cornea, corneal scarring and internal bleeding or retinal damage are very rare but potentially devastating. If these serious, but rare complications occur in one eye, they may also occur in the other. Should any of these complications happen you could experience significant loss of vision or even temporary or permanent legal blindness.

Accuracy: By correcting both eyes simultaneously, there is no opportunity to learn from the healing pattern of the first eye before treating the second eye. Therefore, if there is an overcorrection or under correction in one eye, chances are it will also require a retreatment.

Visual Recovery: LASIK patients usually experience rapid visual recovery. Some patient, however, can experience delayed visual recovery and experience symptoms as blurred vision, night glare or ghost images. There is no way of predicting how long your eyes will take to heal, and some of these complications can result in prolonged recovery of normal vision. Blurred vision may rarely continue for several weeks in both eyes, which could make driving difficult or dangerous and could interfere with your ability to work. The healing corneal flap is most susceptible to trauma during the first several weeks after surgery. Should both flaps become accidentally displaced, significant visual loss in both eyes may result.

Satisfaction: Both eyes tend to experience similar side effects. If you experience undesirable side effects such as glare, ghost images, increased light sensitivity, or corneal haze in one eye, you will likely experience them in both eyes. These side effects may cause a decrease in vision or other negative effects, and some patients have elected to not have their second eye treated.

- 10. *Inconvenience Between Procedure.*** After a patient has laser vision correction performed in just one eye, the two eyes may not work well together because of a difference in refraction between the eyes. This may impair a patient's ability to work and drive unless the patient procures a temporary set of glasses or contact lenses, which adjust, for the difference in refraction between the eyes.
- 11. *Remote Risks.*** As with any procedure of this type, there is a remote possibility of infection, drug reaction, or the rare complication that would cause the loss of vision.
- 12. *Long Term Effects.*** Because laser vision correction is a relatively new procedure, the long-term effects and consequences of the procedure have not been fully determined.
- 13. *Pregnancy.*** You should not be pregnant or planning to become pregnant within one year of the proposed surgery date. Pregnancy may affect your healing response also, some medications may pose a risk to an unborn or nursing child.

EMERGENCY CARE

Emergency situations are unusual. However, if you have any questions or think you may need help, please call the number provided. The number of the Department of Ophthalmology at the University of Texas Southwestern Medical Center of Dallas is 214-648-2020.

PATIENT SATISFACTION

Patients are encouraged to telephone the Department of Ophthalmology at the University of Texas Southwestern Medical Center of Dallas with any questions, concerns or complaints. The number is (214) 648-4842. The after hours emergency number is (214) 648-2020.