The Options
Most patients select LASIK because of more rapid healing and faster return of vision. However, PRK/LASEK/EPI-LASIK are excellent alternatives for patients who cannot undergo LASIK. LASEK/PRK/EPI-LASIK are also known as “surface procedures”. Please also read “Information about LASEK/PRK/EPI-LASIK”.

Results: It is important to realize that the surface procedures use exactly the same lasers and the same technology as LASIK. Additionally, there does not seem to be a significant difference in the percentage of patients achieving 20/20 to 20/40 vision at the end of six months between patients having the surface procedures and patients having LASIK. The incidence of over- or under-correction, the need for enhancements (touch-ups), decreased correctable visual acuity, infection, rate of complications and long term side effects are essentially equal. Wavefront or custom corneal treatments can be done for both LASIK and surface procedures.

Cost: Dr. Mandel charges the same for both LASIK and surface procedures. The Laser Center charges a little more for EPI-LASIK because of the special instrumentation required.

Length of procedure:
Both LASIK and surface procedures are quite short. They each take about 6 minutes of actual treatment time for each eye. There is no discomfort during either procedure. With LASIK and EPI-LASIK, there is a “pressure sensation” and a “graying” out of vision for about 20 seconds at the beginning of the procedure.

Complexity:
Both are highly delicate microsurgical procedures that require the skill, knowledge and expertise of an experienced cornea and refractive surgeon.

Post-operative course:
In the majority of cases, the vision following LASIK is much better during the first three weeks than the surface procedures. Discomfort is considerably less, achievement of visual acuity is faster, return to full activity is quicker, and the need for post-operative medications is greatly diminished with LASIK. Vision becomes “crisper” quicker and patients feel more comfortable during the early post-operative period. It takes up to one month for vision to become clear after PRK/LASEK/EPI-LASIK. This is why we recommend doing PRK/LASEK/EPI-LASIK on one eye at a time.

Post operative care:
▼ LASIK – a shield is worn over the eye the first 24 hours, and then nightly for 10 nights to prevent inadvertent rubbing of the eye. Eye drops are begun the morning after surgery and are used for 4 days.

▼ SURFACE PRK/LASEK/EPI-LASIK – a therapeutic soft bandage contact lens is placed in the eye at the time of surgery and is worn for approximately six days to reduce discomfort. Anti-inflammatory, antibiotic and cortisone eye drops are used three times a day while the lens is on. After contact lens removal, the topical cortisone is used four times a day for one month, then tapered over the next one to three months. Artificial tears are used frequently.

Side effects:
Both procedures have a low rate of side effects. These include mild irritation, glare or halos (more prominent at night), ghost images, and under- or over-correction or induction of astigmatism. Both LASIK and surface procedures can produce a slight decrease in the quality of night vision (decreased contrast sensitivity). These side effects have been minimized with software and hardware upgrades to the lasers that we employ including larger treatment zones, eye tracking, wavefront and iris registration.

Complications:
▼ Haze and/or scarring of the surface of the cornea may occur following PRK/LASEK or EPI-LASIK. However, it is rare with lower degrees of nearsightedness (less than -5.00 diopters). In patients with higher degrees of nearsightedness I briefly place a small sterile sponge with a medication called Mitomycin C on the surface of the treated cornea. This substantially decreases the chances for scarring or haze following PRK/LASEK or EPI-LASIK. However, if scarring occurs, it can permanently decrease vision. About 13% of LASIK or PRK/LASEK/EPI-LASIK patients may require a re-treatment (enhancement or touch-up) for undercorrection, overcorrection and/or induced astigmatism. Retreatment is more common in

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patients who are highly myopic, highly hyperopic, or who have a lot of astigmatism. With either PRK/LASEK/EPI-LASIK or LASIK regression and under-correction is very uncommon with less than 3.00 diopters of myopia or hyperopia, or 2.00 diopters of astigmatism.

Irregular astigmatism (i.e., a “wavy” corneal surface) due to decentration of the laser optical zone or uneven healing is uncommon with both procedures (less than 1%).

- Loss of best correctable (i.e. with glasses) vision worse than 2 lines on the vision chart is about 0.5 to 2% for both LASIK and PRK/LASEK.

- Recurrent corneal erosions - are uncommon with both PRK/LASEK and LASIK.

- Infections are very rare but may result in permanent loss of vision. Sterile inflammatory white blood cell infiltrates in the treated area occur rarely in surface procedures while wearing the therapeutic bandage soft contact lens. These usually respond well to treatment with topical antibiotics and cortisone. Sterile white flood cell infiltrates (DLK) below the flap can also be seen with LASIK.

- Cortisone-induced glaucoma. Unlike LASIK, many surface procedure patients require topical cortisone for one to four months to reduce scarring and prevent regression. A small percentage of patients have a genetic tendency to develop high pressure in the eye when given cortisone drops for this long. When the cortisone drops are discontinued, the elevated pressure in the eye generally returns to normal. Rarely does the pressure remain elevated and require treatment. LASIK patients use cortisone drops for a few days and cannot develop cortisone-induced glaucoma.

- Cortisone can also cause cataracts but fortunately, they are rarely seen with four months or less of topical therapy. The rare patient may develop an early cataract requiring cessation of cortisone, at which time the cataract usually stops growing. LASIK patients use cortisone drops for only a few days and cannot develop cortisone-induced cataracts.

Complications specific to LASIK.

These include problems with the microkeratome which may result in incomplete flaps, irregular flaps, flaps with thin spots or “holes” in it, or a flap that comes totally off. These require the procedure to be aborted, and then re-done in about three months. Rarely a flap may require suturing back in place, and even more rarely, a flap may be lost. If the flap/cap is lost, a corneal transplant operation may be required.

- Occasionally, adequate ring suction cannot be maintained, and LASIK cannot be performed.

- Other uncommon flap problems include material under the flap (which usually causes no problem), infection (very rare), or epithelial ingrowth beneath the flap (requiring lifting the flap and removing the cells).

- Folds (like the striations seen just before tearing a piece of cellulophane off of a roll) occur in about 5% of LASIK flaps in people with high amounts of myopia (-6 diopters of more), and occasionally lower myopes who require large zones of treatment. Most of the time the folds do not cause symptoms. But, occasionally they can result in distorted vision, decreased vision, a decrease in contrast appreciation and/or can increase glare and halos at night. If patients have symptoms from micro-folds, the flaps must be lifted and an attempt to “iron out” the folds undertaken. However, in some cases, the folds cannot be “ironed out” and patients may have persistent symptoms.

- Blindness is an exceedingly rare complication of LASIK or LASEK/PRK and can be caused by severe infection or a retinal, optic nerve or blood vessel problem occurring in the back of the eye during or after surgery.

Fortunately, refractive surgery procedures are safe and effective and complications are rare. However, like any operation, problems can occur and patients must always weigh the risks and the benefits before undergoing surgery.

As always, if you have any questions regarding your care, call us at: 877-210-2020