Surgical Information Package for
LASIK, LASEK & PRK

AL ZAHRA
THE HEALING TOUCH

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Introduction

Thank you for choosing the AI Zahra Laser Vision Clinic, part of Al Zahra Pvt. Medical Centre, Dubai, for your laser vision correction. We appreciate the fact that this is an extremely important decision that could alter your life immeasurably. Like many patients, you may be feeling excited about the prospect of being freed from dependency on glasses or contacts, but at this point, you may also have some questions. In this package, we have attempted to answer any questions you may have regarding the nature of the procedure, the benefits, risks, and potential complications of the procedure, and alternative treatments.

You may also have some questions about the Al Zahra Laser Vision Clinic itself. Our mission, put simply, is to deliver the highest standard of medical care at an accessible cost to our patients. At Al Zahra Laser Vision Clinic, we use the 4th generation EXCIMER LASER from Carl Zeiss, MEL80 from Germany. It has the best wavefront analyzer to perform wavefront assessment and wavefront treatment. We also use the best microkeratome from Allergan, USA, AMADEUS which gives the finest flap and has improved safety features to reduce flap complication. Operations are performed in a sterile atmosphere, under topical anaesthesia.

You will find information about our Ophthalmologists in the enclosed brochure.

The three refractive surgery procedures carried out at Al Zahra Laser Vision Centre are LASIIZ (Laser in Situ Keratomileusis), LASEK (Laser Ephithelial Keratomileusis) and PRK (photorefractive Keratectomy). LASII<, LASEK and PRK are referred to collectively as the "procedure" in the following materials and are briefly described below.

What are LASIK, LASEK and PRK

LASIK

LASIK' (laser in situ keratomileusis) is a form of outpatient corneal surgery in which a surgeon uses a specialized and precise flap-making instrument, called a microkeratome, to create a thin flap of corneal tissue. This flap is raised and laid back while still attached to the cornea. The surgeon then uses a state-of-the-art excimer laser to remove a pre-determined amount of corneal tissue from the exposed bed of the cornea. The amount of tissue to be removed is calculated based on the preoperative determination of the power of your eye; these measurements are usually in agreement with recent prescriptions for your glasses andlor contact lenses. The flap is replaced and within minutes natural forces hold the flap down on the cornea. Usually, within a few hours, the surface epithelium of the cornea begins to grow over the cut edge of the flap to seal it into position. LASIK can be used to correct shortsightedness (myopia), long-sightedness (hyperopia), and astigmatism.

PRK

PRK (photorefractive keratectomy) is a form of outpatient corneal surgery in which a surgeon gently removes the surface covering layer of the cornea called the epithelium, and then reshapes the corneal bed with the laser in the same way as LASIK. The technique is usually used for people whose cornea may be too thin to allow for the creation of the corneal flap required for LASIK. The procedure is used to correct short-sightedness (myopia), Long-sightedness(hyperopia) and astigmatism.

LASEK

Like LASIK and PRK treatments, LASEK (Laser Epithelial Keratomileusis) is a clinically proven outpatient procedure for the treatment of a full range of sight problems, including myopia (Short-sightedness), hyperopia (long-sightedness), presbyopia and astigmatism. LASEK combines the advantages of both LASIK and PRK, making it a viable alternative to those not suitable for LASIK.

In the following pages, you will find further details about the procedures, as well as information about the conditions that cause you to require visual correction, and the steps to follow before and after your procedure. Please read all of the material in this package carefully. Remember that we provide this package in addition to, but not as a replacement for, discussions with your surgeon which we encourage you to have. In addition, you may find it helpful to consult our website, at www.alzahra.com.

How The Eye Works

LASIK, LASEK and PRK are performed on the cornea. The globe of the eye possesses a transparent wall at the front called the cornea. The cornea acts as the major focussing lens of the eye. Ninety percent of the cornea itself consists of tissue called the stroma, with an outer layer called the epithelium. Removal of stromal tissue from the cornea does not usually lead to regeneration of stromal tissue. Removal of epithelial tissue does lead to regrowth of epithelium. Therefore, removal of stromal tissue can produce permanent recontouring of the cornea, thereby changing its focussing power.

Refractive Errors

Before undergoing the procedure, it is helpful to understand how the eye works. The eye is like a camera. The cornea is the clear, dome-shaped window that forms the front wall of the eye. The retina is the light-sensitive tissue in the back of the eye that connects to the brain. The retina acts like the ftlm in a camera. The cornea at the front of the eye acts as a lens that focuses light onto the retina, producing an image on the retina that gets transmitted to the brain and interpreted as vision. The curve of the cornea determines the power of the corneal lens and whether the incoming light rays from distant objects focus directly onto the retina. When light does not focus directly on the retina, the eye has a refractive error. This means that with the appropriate "refractive correction" lens, incoming light rays become focussed onto the retina producing clear vision.

Myopia (Shortsightedness)

In the normal eye, the cornea focuses light rays directly on the retina, resulting in clear vision without glasses or contact lenses. In myopia, the eye is longer than normal. The light rays come together at a point in front of the retina, and are out of focus on the retina. Distant objects are blurred, while nearby objects can be clear.

Hyperopia (Longsightedness)

In hyperopia, the eye is shorter than normal. The light rays come together at a point behind the retina, and are therefore out of focus on the retina. Nearby objects can appear blurred, while distant objects are clearer. Very farsighted patients will report that even distant objects appear blurred.

Astigmatism

In the normal eye, the cornea is curved the same in the horizontal and vertical directions, like a football. When the light rays hit the cornea, they focus at a single point. In astigmatism, the curve of the cornea is not the same in the horizontal and vertical directions. The cornea looks like a rugby ball, with a steep curve on one side and a flat surface on the other. As a result, light rays entering the cornea do not focus at a single point, causing distorted vision. Many people with myopia or hyperopia have some degree of astigmatism.

In all these conditions, the person needs some type of corrective lens, such as glasses or contact lenses, to focus the light properly. LASIK, LASEK and PRK are used to change the shape and curve of the cornea in order to correct or reduce these types of refractive errors.

What Happens During The Procedure?

The procedure is performed on an outpatient basis at the Centre. The procedure generally requires under twenty (20) minutes of operating room time, during .which the laser is used for less than a minute on each eye, but the actual duration of the procedure may vary according to the type and amount of correction needed. If you would prefer to take a mild sedative, such as Valium or Ativan, to help you relax during the procedure, please inquire about this possibility during your pre-operative assessment.

The LASIK procedure utilizes an extremely precise instrument to create a corneal flap, calling a microkeratome, in addition to the excimer laser. The laser reshapes the cornea by removing tissue from its main body of stroma.

Before the procedure begins, you will be given eye drops to numb your eyes. While you relax on the treatment bed, your eyelids are gently held open and the micro keratome is carefully positioned. You will be asked to focus on a special fixation light in a microscope. The surgeon activates the micro keratome electronically and seconds later is able to fold away a corneal flap, revealing the middle layer of the cornea. The laser reshapes the cornea and the corneal flap is then repositioned. Natural forces hold the flap in place without sutures, until surface healing is completer-usually within 12-24h.

The LASIK procedure offers extremely fast recovery: within hours of the surgery, the flap has usually begun to be sealed into position. Most patients are able to resume day-to-day activities just 24 hours after the surgery. Your surgeon may prescribe eye drops for one or two weeks after surgery. You must wear eye shields at night to prevent rubbing your eyes for the first week.

The **PRK** technique is used for people whose cornea may be too thin to allow for the creation of the corneal flap required for the LASIK procedure. During PRK, a small area on the corneal outer surface is gently polished away. The laser reshapes the corneal surface in exactly the same way as for the LASIK procedure. After the procedure, your surgeon will place a soft contact lens on the cornea to protect the eye and reduce discomfort while healing. You will be provided with adequate medication to tide you over with the least discomfort possible during the recovery phase. The contact lens will be removed after this initial surface healing is complete, usually within three days of the procedure. Your vision will gradually improve during the first week or two, and in most patients stabilizes between four to eight weeks after surgery. The surgeon will prescribe eye drops to take during this period.

For the first few days after either procedure, you may experience some discomfort. During this time, your vision may be blurred and/or may fluctuate between being clear and being blurred. In some cases, a patient's vision improves immediately after the procedure, but later becomes blurred. These conditions may affect individual patients differently. The final outcomes of LASEK/PRK and LASIK are generally identical; the difference is usually only in the healing time.

You should not drive for at least twenty four (24) hours after either procedure, and in no event should you drive until your vision is clear

Potential Benefits

There are numerous potential benefits for patients who undergo either LASIK, LASEK or PRK. Almost all of these advantages are associated with reduced dependence on eyeglasses and/or contact lenses. While the use of eye glasses and/or contact lenses can be an effective method of correcting refractive error, it is also a method that can place restrictions on normal, everyday activities.

Reduced dependence on corrective lenses can result in considerably more freedom for patients with active lifestyles. Many recreational activities, such as water sports or contact sports, tend to be much more enjoyable when the necessity of wearing glasses or contacts is removed. In some cases, patients choose laser eye surgery for professional purposes, rather than recreational ones. Corrective lenses are not permitted in all fields of employment.

For contact lens wearers, laser eye surgery can also eliminate the time and effort involved in cleaning, removing and replacing lenses. In addition, over time, the costs associated with maintaining and replacing corrective lenses can be prohibitive. Some eyeglass wearers also cite cosmetic or aesthetic reasons for wanting to undergo the procedure.

The reasons for contemplating laser vision correction will be different for every individual. For those who have required corrective lenses throughout most of their lives, the simple prospect of being able to drive without wearing glasses or contacts, or of being able to wake up and see without putting on glasses or contacts, may be sufficient reason in itself. The potential benefits, like the potential complications, can vary, and should be considered carefully. The patient is the only person who can decide whether the benefits of laser eye surgery outweigh the risks.

Are There Alternatives?

LASIK, LASEK and PRK are elective surgical procedures. There is no medical condition or emergency condition requiring that you have the procedures. They do not correct all levels of refractive error and are not for everyone. We cannot guarantee that the procedures will improve your vision, or that it will eliminate your need for glasses or contact lenses. After the procedure, you may still need glasses or contact lenses for some purposes, either immediately after the procedure or years later. It is also remotely possible that your vision will not remain stable, either because the procedure leads to short-term and long-term changes in the cornea or because your eye may change over time. Particular details of your own condition should be discussed with your surgeon.

There are alternative methods of correction available, including the following:

Eyeglasses are safe, relatively inexpensive and most people can wear them reasonably well. However, depending on the nature of the correction, the lenses may be thick, may reduce or increase the size of the visual image, and may impair peripheral vision. Also nearsighted patients usually begin to experience the need for reading glasses as they age. The most common solution to this problem is bifocal lenses, which can be suitable for some patients, but can create a difficult transition for others.

Contact lenses are another non-surgical alternative. Contact lenses come in a variety of materials, and comfort, effectiveness, and ease of use varies. Since contact lenses rest directly on the cornea, not everyone is able to tolerate them. If fitted and used properly, contact lenses are effective, relatively safe and easy to use. Complications arising from the use of contact lenses include allergic reactions, infections scratches, ulcers or other injuries to the cornea.

Intacs™ might be a possible alternative for those persons with mild myopia (four dioptres or less). Intacs™ are surgically implanted plastic half rings that change the shape of the cornea. Intacs™ can be removed at a later date if so desired. Complications from Intacs™ may include difficulty with night vision, glare, halos, blurred or double vision and fluctuating distaQ.ce vision. The FDA approved labeling of Intacs™ indicated that up to 7% of these devices were removed for complications during the FDA phase III clinical trials. Recent studies comparing LASIK and Intacs showed that LASIK achieved a significantly more accurate result three months after the procedure.

CLR (Clear lens replacement) might be a possible alternative for farsighted patients. CLR involves the removal of the Internal lens of the eye. This lens is then replaced by an implanted one of increased refractive power. This involves entering the eye and therefore carries the more serious risk of internal infection of the eye.

Other methods of refractive surgery available include **Radial Keratotomy** (RK) and **Automated Lamellar Keratoplasty** (ALK). RK is seldom performed now because it works by effectively weakening of the structure of the cornea through carefully placed incisions to achieve the refractive surgical effect. The excimer laser can achieve the same effect as RK without effectively changing the structural strength of the cornea. ALK was a precursor to LASIK, using a microkeratome, but with the advent of excimer laser technology, is now obsolete.

Who is Eligible For a Procedure?

To be eligible for LASIK, LASEK or PRK, you must be over 18 years of age and not have had a significant change in your glasses or contact lens prescription for the preceding twelve months. Other factors, such as the general health of your eye, will be examined at the pre-operative assessment.

Certain conditions may make you a questionable candidate for the procedure or cause additional risks or complications. This may interfere with the healing process and require additional care. If you have or may have any of these conditions, we suggest that you discuss them thoroughly with your optometrist and your surgeon. These conditions include, but are not limited to :

- Eye inflammation or infection
- Excessive corneal disease or scarring
- Degenerative disease of the cornea
- Use of certain drug
- Pregnancy and nursing
- Certain rheumatological conditions (e.g. lupus, Rheumatoid arthritis)
- Severely dry eyes
- Inadequate corneal tissue
- Uncontrolled diabetes
- Pacemaker

Financial Responsibility

Our centre charges a single combined fee for our surgical and post-operative care services. The Centre Fee covers all pre-and post-operative services. Post-operative services include a 24-hour check and assessments at one week, one month, three months, six months and one year with additional visits required for LASEK and PRK. Please note that you will be responsible for paying the fees for surgery 7 days prior to treatment being undertaken. For your convenience, payment may be made by Visa, American Express, MasterCard, bank certified cheque, or cash.

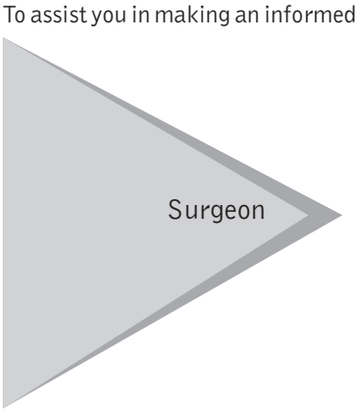
The fees are stated in the enclosed leaflet.

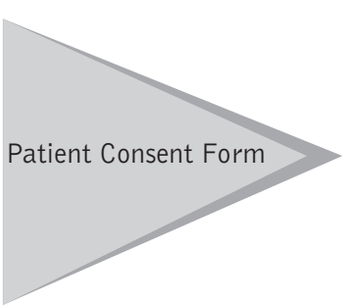
Informed Consent

you have the right to consent to or to refuse any treatment or procedure at any time. Consent is a process that involves many steps, involving the patient, the surgeon and the Centre staff. Please remember that the staff and your surgeon are available to help address your concerns, so do not hesitate to ask questions.

Steps of the Consent Process

To assist you in making an informed decision, your surgeon will provide you with a description of the procedure, the risks, complications and expected benefits, and the alternatives. Please ensure that your surgeon is aware if you have unanswered questions for if you do not understand any topic. Your surgeon does not have to explain risks that are commonly understood, extremely remote, or those that your surgeon does not know about, even if those become known at a later time. However, your surgeon must provide you with information that would be material for a reasonable person in your position to use in deciding whether or not to undergo the procedure.





If, after reading this material and speaking with your surgeon, you decide to undergo the procedure, you will need to sign the Patient Consent Form(s), indicating that you have been advised of the nature of the procedure, its risks, benefits and alternatives, and that you are making an informed decision to undergo the procedure. You can request a copy of your Consent Form(s).

Enhancements

An overwhelming success rate with patients after only one procedure is achieved in most cases. However, due to an individual's prescription level and unique physiology, an additional treatment or enhancement procedure may be required. If this is the case, you would need to return to your original surgeon, in order to have an enhancement performed.

In general, patients must wait at least three(3) months after the first procedure, and complete all mandatory post-operative appointments, before requesting an enhancement. The majority of decisions about enhancement can be made at the three month post-operative visit. You may also be . required to complete an annual eye examination prior to requesting a retreatment.

The medical team at the centre will help you determine whether it is in your best interests to proceed with another treatment, based on factors such as adequate corneal tissue, type of astigmatism and any other conditions affecting the eye. There are currently two methods used for retreatment. The most common method for LASIK enhancements involves relifting the flap created from the first surgery and reshaping the underlying corneal tissue. The second involves making a new flap. LASEK/PRK enhancements entail removing the surface cells from the cornea and using the excimer laser to reshape the underlying tissue. As with your original procedure, the results of an enhancement cannot be predetermined or guaranteed.

Our goal is to help you achieve a life free from dependence on glasses or contacts, and the enhancement policy has been designed to assist in that goal. Like most of our other patients, you may attain improved vision with a single treatment. In the event that you do not, you have the added reassurance of knowing that our enhancement commitment will last for the post-operative period while awaiting your ftrst treatment to stabilize, and up to 1 year from the date of your initial surgery. (Whether or not you experience the need for an enhancement, keep in mind that all patients will eventually require reading glasses as part of the unrelated and natural aging process of the eye).

Potential Complications

Like any surgical procedure, LASIK and LASEK/PRI involve risks of unsuccessful results, complications, or serious injury, from unknown and unforeseen causes. Although the vast majority of our patients experience a significant improvement in their vision, neither your surgeon, nor your optometrist, not the Centre nor its staff, can promise or guarantee that the procedure will be 100% effective or make your vision better than it was before the procedure. During your pre-operative examination, the likely surgical efficacy outcome (e.g. the chances of you seeing well without glasses or contact lenses after one surgery) will be conveyed to you based on the level of your particular refractive error.

There is a small possibility that the procedure or a complication arising from the procedure could cause your vision to be blurred, doubled, distorted, or have halos or other disturbances, and that these would NOT be correctable with glasses or contact lenses. In the event this should occur, your surgeon will discuss and offer you advice on further treatment, which may involve medications or more surgery. If the outcome cannot be corrected by medications or more external surface corneal surgery, the only way of restoring the vision may be a corneal transplant. However, it is believed that with current techniques and technology, the combined risk of all causes of a corneal transplant being necessary is approximately one in 20,000 or less.

Certain inflammatory conditions can cause corneal inflammation, progressing in rare cases to thinning of the corneal flap; this could result in permanent loss of clarity in the vision, or other visual disturbances as above. In addition, because the LASIK procedure is less than ten years old, very little is known about the long-term effects of the procedure. However, flaps have been created in the cornea for approximately 30 years, in procedures such as keratomileusis as described and performed by Barraquer since the 70's and automated lamellar keratoplasty (ALK). Although it is not possible to list every potential risk or complication that may result from the procedure, many of these are described below.

Halos, starbursts

Some patients do not see as clearly at night or in dim light and may notice an optical effect called a "halo" or a "starburst" around lights and illuminated objects after the procedure. Patients who notice these effects may need to wear glasses to drive at night. These effects are for the most part temporary, typically lasting between two weeks and three months. Glare and halo could be permanent, and this would be more likely to occur in patients with high levels of shortsightedness or longsightedness and for patients with larger-than-average pupil size. Halos often result when a patient's nigh time pupil size is larger than the corneal area treated with the laser. Given the fact that the newest generation of lasers can treat a wider zone, halos now occur much less frequently than in the past.

Equipment Malfunction

The microkeratome and excimer laser are' maintained according to manufacturer specifications. However, despite this regular maintenance, the microkeratome or the excimer laser could malfunction, requiring the procedure to be stopped before completion. In come instances, this could result in a rescheduling of the procedure, or damage to the vision.

Under-correction or Over-correction

The exact removal of tissue performed by the laser is overridden in some cases by the healing response of the eye. While the treatment of your refractive error is designed to completely neutralize your refractive error (unless otherwise discussed with your surgeon) this treatment is aimed at the "average" eye. If your eye tends to heal in a different way from the "average", your refraction may result in an over- or under correction of the refractive error. A patient's tolerance for under-correction or over-correction can be corrected with glasses, contact lenses or additional surgery. A minority of patients would not be able to safely have laser retreatment, most likely because of insufficient corneal tissue. Your surgeon would in most cases be able to advise you before your initial surgery of the likelihood that you would not have sufficient remaining corneal tissue for retreatments.

Light Sensitivity, Fluctuating Vision

Patients may be extremely sensitive to light and glare or find that their visual acuity fluctuates after the procedure. These conditions are generally temporary and usually go away within one (1) to three (3) months after the procedure, as the eye heals and stabilizes. However, in less than approximately 1% of cases, they could be permanent.

Optical Imbalance

If the surgeon performs the procedure on each eye on different days, the eyes may not be able to

balance and focus properly until the procedure is performed on both eyes because there will be a power difference between the two eyes.

Infection, Hemorrhage, Blockage and Other Complications

Other risks include severe infection that cannot be controlled by antibiotics, hemorrhage, corneal swelling, retinal detachment, venous or arterial blockage, cataracts, drug reaction, or other complications. These complications can be minor, temporary problems. There is also a remote risk, estimated to occur in less than 1 to 10,000 cases, of major, permanent conditions, including but not limited to perforation of the cornea, retinal damage, or loss of ~fl eye, which can cause partial or total blindness.

Regression

The cornea is living tissue. Once tissue has been removed from the cornea during the procedure, the surface epithelium ("skin") can thicken to compensate for the change in shape that has occurred. This happens to a variable degree among treated patients, accounting for the reason why some patients have a stable immediate result (minimal epithelial thickening) and others regress (more significant epithelial thickening). Regression is more likely to occur in patients with high shortsightedness or longsightedness. In the majority of cases, the patient can have another laser surgery to improve distance vision. The ability to perform further surgery will depend on safety parameters set by your surgeon. In some cases, it may not be possible to remove further tissue, and the residual refractive error will need to be corrected with glasses and/ or contacts.

Increased Pressure in the eye

The steroid drugs used during the first week after surgery may, in rare individuals, cause increased pressure in the eye. The increased pressure typically drops to normal levels upon cessation of steroid therapy. This raised pressure needs to be closely monitored and may require additional topical and/or oral medications if significantly elevated. It is important for you to attend scheduled follow-up visits to monitor your eye pressure in order to modify the medication schedule as needed.

Fragility on Impact

For at lease three (3) months after the procedure, the corneal flap should be considered fragile to direct trauma. When participating in sports or other activities involving possible contact with the eye during this period, you should wear protective eyewear. In any event, it is advisable to protect your eyes from direct trauma after the procedure as much as possible.

Eyelid Droop

The eyelids have a natural tendency to droop with age. The eyelid speculum that is used in the procedure may hasten this process slightly.

Corneal Ectasia

A certain amount of corneal tissue must remain under the flap after the laser has achieved tissue removal. This is believed to relate to the long-term stability of the cornea. In rare instances, less tissue is left under the flap than intended. This can have two effects; it can either result in bulging of the cornea thus reversing the intended flattening effect of the treatment, or it can lead to progressive corneal deformity of the cornea with thinning and increasing curvature changes, and the cornea can develop an irregular shape. This progressive corneal deformation is called ectasia,

sometimes requiring a corneal transplant in order to restore vision. The probability of ectasia and transplant occurring with currently employed modern technology is estimated to be one in 10,000.

Faulty or Improperly created flap

The corneal flap may be too thin, too thick, uneven, and too short, may wrinkle, become displaced or may not heal properly. This condition could be temporary, requiring that LASIK be postponed until the surgeon can create a new flap, or could cause permanent damage to the cornea. The risk that such a flap complication might produce damage to the vision by two or more lines on the vision chart is in the range of 3 to 10 in 1,000. In addition, there is a risk, estimated at 1 in 5,000 that the "hinge" of the flap may be cut off from the cornea (also known as a "free flap"). Free flaps usually allow your surgeon to complete laser treatment, but this is sometimes postponed. Rare patients experiencing free corneal flaps might lose correctable vision, in some cases requiring corneal transplantation. The overall risk of corneal transplantation is less than 1 in 10,000.

Debris under the flap or Infection under the flap

There can sometimes be a small amount of debris or tissue under the flap after the surgeon has completed the LASIK procedure. Debris can result from the Instruments used or consist of tear-fIlm oil or floating material. The surgeon may decide in the immediate post-operative period to irrigate beneath the flap to remove this debris. Small amounts of debris can generally be left in place and monitored without surgical intervention. In almost all cases, debris under the flap does not affect the patient's visual result. Infection, on the surface of, or beneath the flap is a rare event, estimated to occur at a rate of one in 10,000. Infection is managed by starting antibiotic eye drops and in most instances, taking cultures of the cornea. Your surgeon might even need to lift the corneal flap to culture and treat the infection. If the infection results in significant scarring of the cornea, a partial or complete corneal transplant may be necessary to restore vision.

Diffuse Lamellar Keratitis or "Sands of the Sahara"

One in 500 patients experience a temporary inflammatory reaction beneath the flap. This condition has been called "Sands of the Sahara" or Diffuse Lamellar Keratitis (also known as "DLK"). The exact cause of this complication has not been proven, and is likely due to many different factors. Patients with DLK may not show any symptoms at all or may experience blurred vision and tearing, which can last from several days, up to several weeks, which can delay the healing process. DLK can generally be treated with topical and/or oral steroids, occasionally with possible need for surgical intervention (the surgeon irrigates beneath the corneal flap).

Epithelial Erosion

The epithelium is the surface layer of cells that protects the cornea as the "skin" over the stromal layer of the cornea. If the epithelium is cut or removed, it generally grows back. In LASIK, the surgeon creates a flap, consisting of epithelium and stroma, and holds the flap back while performing the laser treatment. The epithelium in some people is not as well attached to the underlying stroma; such eyes are at increased risk for epithelial scratches or epithelial sliding, especially as the flap-maker passes over the corneal surface to create the flap. In some cases, we can identify eyes at risk and advise about the increased risks associated with surgery. There are, however, rare patients where there are no pre-operative clues; the likelihood of having a scratch during LASIK with no preoperative warning signs is approximately 1 in 5000. In addition, older patients are more likely to have areas of weakened surface epithelium during flap creation. In such

instances, the surgeon places a bandage contact lens over the cornea after LASIK to assist in healing and to reduce discomfort. Patients who experience an epithelial slide, abrasion or erosion may experience a longer recovery period and may be at risk for complications including infection, inflammation, recurrent erosions, flap wrinkles or epithelial ingrowth. In the event of a severe epithelial scratch, your surgeon will still typically be able to lift the flap and perform laser treatment. However, he or she may recommend delaying the LASIK procedure on the second eye until the vision has improved in the first eye. This would be the case for the 1 in 500 patients at risk for significant scratches. Your surgeon may recommend against LASIK in the second eye if you are considered predisposed to epithelial scratches. In such cases, LASEK/PRK would be a viable alternative to glasses or contact lenses.

Epithelial Ingrowth

Epithelial ingrowth is a condition in which epithelial cells from the surface of the cornea grow under the edge of the flap. The vast majority of these cells regress on their own. However, if the cells continue to grow, they can affect the underlying tissue causing astigmatism, flap edge thinning and reduction of vision. This condition is generally treated by medication and observation, although further surgery to remove the epithelial cells from the interface may be necessary. This occurs in less than 1 % of cases.

Dry Eyes

Dry eye is a common but generally temporary, complication arising from LASIK or LASEK/PRK. This condition can usually be treated with lubricating eye drops and occasionally with temporary inserts or "plugs" that prevent the normal drainage of tears into the nose. Dry eye generally improves within a few months after surgery, but in rare instances can continue for longer periods of time, and may require long term use of lubricant drops and permanent plugs. Patients who have dry eyes prior to LASII(or LASEK/PRK are likely to experience dry eyes after the procedure.

Vascular Occlusion

When the suction ring is applied to the eye during the flap-making process, the pressure in the eye increases significantly and may patients will notice that the light will dim or go out completely in the eye. When the suction ring is removed, the vision is restored to the eye within a few seconds. There is an extremely remote risk that when the suction ring interrupts the blood supply to the eye, permanent damage to the retina (the film of the eye camera) or blood vessels in the retina can take place, with loss of vision. This possible occurrence has a theoretical probability of less than one in 1,000,000.

Microscopic Corneal Surface Irregularities

Microscopic irregularities on the surface of the cornea can cause slight vision loss. The probability of these irregularities increases with the level of prescription treated. In general a fraction of 1 % of patients may lose two lines of vision on the eye chart after the procedure. The chances of losing vision in an eye to a level worse than 20/40 is thought to be 1 in 10,000.

Excessive Corneal Haze

Corneal haze is part of the normal healing process, and gradually subsides with little or no permanent effect on vision. However, if the haze is excessive or does not go away, the patient may need additional treatment. Haze might be seen in the rare LASIK patient experiencing a significant corneal scratch or erosion. For LASEK/PRK patients, significant haze can occur in patients undergoing high levels of correction (e.g. above 6 dioptres of myopia or above 4 dioptres of hyperopia).

Limits to Correction

The procedure does not correct vision defects, such as those listed below, which do not arise from refractive errors. Patient with such conditions may be subject to additional risks and additional side effects and should discuss their condition with the surgeon and optometrist before deciding whether to have the procedure.

Cataracts

Cataract is a condition that, if not treated, can cause reduced vision, correctable by cataract surgery. LASIK or LASEK/PRK will not prevent cataracts, nor will it reverse the effect of a cataract that is beginning to appear.

Amblyopia

Amblyopia, or "lazy eye" is a medical condition that develops in early childhood in which a person who has reduced vision in one eye relies on the other eye to see, hence arresting the development of vision in the amblyopic eye. LASIK or LASEK/PRK will not reduce or eliminate amblyopia. It will not improve the vision in the amblyopic eye. If the patient experiences side effects or complications from the procedure in the eye that is able to focus, he or she could experience a loss of vision because that eye would no longer be able to compensate for the other.

Strabismus

Strabismus is an eye disorder caused by a weakness in the eye muscles in which the eye may not be aligned properly. LASIK or LASEK/PRK will not correct, reduce, eliminate or prevent strabismus. Patient with strabismus may develop double vision as a result of or as a side effect of the procedure.

Presbyopia

As we age, the natural crystalline lens of the eye may lose its ability to accommodate to nearby objects. This condition known as presbyopia, usually being around the age of 40, and can most often be comfortably corrected through the use of reading glasses. LASK or LASEK/PRK will not prevent, and may unmask, the need for reading glasses in patients around the age of forty.

Patient Process And Procedure

A. Important Information for Contact Lens Wearers

Contact lenses can "mold" the corneal surface, which changes the corneal curvature and may lead to a change in your refraction (prescription). In order to properly calculate the treatment to correct your refractive error, you will have to stop wearing contact lenses at some stage prior to your appointment. In time the cornea will return to its natural shape and size. We are dedicated to providing you with the most accurate treatment, and this can only be achieved if the corneal surface is stable and back to its natural shape. For the vast majority of patients, the recommended minimum length of time for contact removal should suffice. However, the individual rate of corneal adjusting may vary. If your cornea is still adjusting at either the pre-operative or surgery appointment, you will be required to reschedule your appointment for a later date. This will allow the cornea to return to its natural shape and refraction to stabilize, thus providing you with an opportunity to attain the best possible outcome. We cannot reimburse for time off work, hotel, airline tickets or any other expenses incurred due to rescheduling.

The difference in the length of times to remove contact lenses listed below is to ensure that the majority of out-of-town patients are not inconvenienced by rescheduling of appointments if corneal "molding' is apparent.

Medical evidence suggests that the likelihood of a re-treatment is reduced the longer a patient has had their contact lenses out.

Removal of Contact Lenses prior to the Pre-operative evaluation and Surgery appointments:

TYPE OF LENSES WORN	AMOUNT OF TIME
Soft Contact Lenses	Minimum 1 week
Extended Soft Lenses	Minimum 1 week
Toric Soft Lenses	Minimum 1 week
Toric Hard Lenses	Minimum 6 weeks
Rigid Gas Permeables worn for 0-20 years	Minimum 6 weeks
Rigid Gas Permeables worn for 21-29 years	Minimum 8 weeks
Rigid Gas Permeables worn for 30 or more years	Minimum 12 weeks
True Hard Lenses (polymethyl methacrylate)	Minimum 12 weeks

B. What Happens Before the Pre-operative Assessment?

- Be prepared for an extensive investigation of your eyes at the initial consultation, which will include drops that will anaesthetize and dilate your eyes for a short term.
- Please arrange alternative transportation for after your pre-operative diagnostic assessment as your vision will be blurred due to drops that will be used, and you will have difficulty reading and driving. Bring a pair of sunglasses, as your eyes may be sensitive to light.
- In consideration of others and to ensure your visit is as comfortable as possible, please try to avoid bringing children with you to the Centre. The duration of your stay will be approximately 2 hours.
- Al Zahra Laser Vision Clinic will not be held responsible for any costs incurred for travel and/or accommodation, lost employment income or any additional expenses incurred due to the patient being deemed a non-candidate, requiring retreatments, re-scheduling, or delays.

C. What Happens Before Surgery?

- Please arrange alternative transportation for after your surgery, as we do not advise driving long distances for approximately 3 days after LASIK and 7 days after LASEK/PRK.
- Depending upon your occupation, you may need to arrange to be away from work for upto 4 days following LA~IK and up to 14 days following LASEK/PRK. Make sure you speak with your surgeon regarding your individual case.
- There are generally no restrictions on eating or taking medications before or on your surgery day. However, please advise us of any medications you are taking.
- Our centre will be happy to provide you with referrals for travel and accommodation, although these remain your responsibility.
- Laser vision correction is a medical procedure and, as such, there is a possibility that you might need to extend your stay due to the healing process of your eyes. In this case, any additional travel and/or accommodation costs will be your responsibility.

- Please remove all eye makeup a minimum of 24h prior to surgery. Please ensure your face and eyes are free from all makeup on the day of surgery. For your own safety, surgery may be cancelled if makeup is present.

D. The Day of Surgery

- You can expect to feel nervous, anxious or excited prior to your procedure. This is a completely natural, normal response.

- Please refrain from wearing perfume or cologne on your surgery date. Please do not use any hair products that contain alcohol such as hair spray or mousse.

- Please pre-arrange alternate transportation for after your surgery.

- Please be aware that your eyes will be irritated and light sensitive following the procedure. This usually settles down within 24 hours after surgery.

- We recommend avoiding alcohol 24 hours prior to and 48 hours after your surgery, as this tends to dehydrate the tissues, cause drying of the eyes and can delay the healing process.

- Wear comfortable clothing on your surgery day. Avoid clothing that may generate lint in the surgical suite (e.g. wool)

- In consideration of others, and to ensure that your visit is as comfortable as possible. We recommend that you do not bring children to the Centre. The duration of your visit will be approximately 2 hours.

E. What Happens After the Procedure?

- Please remember that your follow-up care is as important as the actual procedure.

- Bring sunglasses. Some varieties do not provide adequate protection. We can test yours if you are unsure of the strength of protection. Follow the eye drop regimen recommended by the surgeon.

- Your ftrst mandatory post-operative appointment will take place at our Centre within 24 hours following your surgery. Your appointment time will be given to you immediately after your surgery.

- Following your 24-hour visit you are required to attend 3 additional post-

- operative appointments (5 for LASEK/PRK). Post-operative examinations are required at 1 week, 1 month, and 3 months from the surgery date for LASII(with additional appointment at 6 months and 1 year for LASEK/PRK.

- Each post-operative appointment in our Centre takes approximately 15 minutes; it helps us to evaluate the healing process of your eyes and check for inflammation and infection.

- Please refer to the schedule provided below for more information on resuming speciftc activities.

F. Recommended Activity Schedule Following Routine LASIKILASEK Surgery

Day of surgery

The day of surgery should be a day of rest.

- Always be very careful about activities where the eye may be poked, rubbed or touched.
- Always avoid rubbing eyes. (Rubbing is never a good idea - instead use lubricant drops for irritation or cool water gently splashed onto your closed eyelids)
- Avoid staring without lubricating the eyes.
- Take a bath instead of a shower. Avoid any soap or water in the eyes.

24 Hours after surgery

- Restrict movement to light activities. Work should probably be avoided. Work at home is acceptable.
- Driving short distances after the eye examination is acceptable if adequate vision is conftrmed at the post-operative evaluation.
- Reading and watching TV is acceptable as long as adequate eye lubrication is maintained.
- Flying in airplanes is acceptable but keep eyes generously lubricated (every 30 minutes)- airplanes have very dry air.
- Driving can be resumed if adequate vision is confIrmed at post-operativeev-aluation.

48 hours after surgery

- Shower (but continue to avoid any soap or water in the eyes)
- Apply face makeup (but not eye make-up)
- Do offIce work
- Use computers (but it is very important to keep eyes well-lubricated)
- Exercise without risk to the eyes (e.g. treadmill stairmaster, stationery bike).

Day 3 activities

- Playing with children (be careful)
- Moderate alcohol consumption may be resumed.

Day 7 activities	• Applying eye makeup (avoid touching the eyes). • Jogging outdoors. • Rolerblading • Relaxed bicycling (no mountain biking) • Playing gold. • Lifting weights.
Activities that can begin at 1 month with eye protection	• Racquet sports - tennis, squash, racquetball, badminton • (but always wear eye protection). • Swimming • Scuba diving; snorkeling • Sailing • Sun-tanning • Motorcycling; dirt biking, mountain biking • Parachuting • Baseball, basketball, football, soccer • Skiing
Activities that can begin at 3 month with eye protection	• Proceed with caution as these activities have a high risk • of water being forced into the eyes: • Waterskiing, wind surfIng • Kayaking • SurfIng

Notes

Please use this space to write down your queries or any points that you wish to discuss with the ophthalmic surgeon

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THE HEALING TOUCH

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