Managing The Postoperative LASIK Patient

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The LASIK procedure has been successfully completed, the proper postoperative management of the LASIK patients, plays a significant role in the outcome. The patient has a very significant role in the good outcome. These are several tips to facilitate this process.

I Day of the Surgery

A. Drops

It is very important for the patients to understand the use of the drops, and how long apart the drops should be taken (5’), and how often.

B. Use of the Shields

Shields should be worn at all times the first day of surgery.

C. Pain Management

There is usually no pain in the procedure. There are some significant foreign body sensation on the day of the surgery, and this usually is well controlled with some oral Tylenol. If the pain is very severe, then it might be worth discussing this with the surgeon. In extreme situations, the patient may need to be re-evaluated for the surgery for any possible problems.

D. Fluctuating Vision

It is normal for the vision to fluctuate the day of the surgery, depending on the level of the external surface and the amount of edema in the corneal flap, and while patients are aware of it, that reduces their index of anxiety.

E. Lubrication

Lubrication is important, especially in patients who will spend time indoors, and in situations where the indoors are very dry, to regularly lubricate the eyes with preservative-free tears.

F. Watching Television and Outdoor Activities

These should probably be avoided on the day of the surgery, as frequent blinking of the eye would slow down the superficial healing process, and outdoor activities would increase the risk of exposure to the eye to dust, allergens, etc.

G. Caution Around Young Children

I would exercise caution around young children in particular, as they can become curious about the shield and reach out and cause some potential damage.

H. Sleep

Patients should sleep with the shields in place on the day of the surgery, exercising care to not injure the flap while sleeping.

I. Corneal Abrasion

In the rare occasion where a corneal abrasion is present on the epithelial side of the epithelium following LASIK, these patients may be uncomfortable. The surgeons may opt to discharge the patient from the laser suite with a contact lens in place, working to reduce discomfort. These patients will be prone to have more discomfort the day of the surgery, and will have normally fuzzy vision the day of the surgery. Reinforcement of this fact and reassurance are the only things needed in these situations.

II First Postoperative Day / First Postoperative Week

1. Drops

The usual postoperative regimen is Ocuflox drops four times daily and a corticosteroid drop four times daily, followed by unlimited preservative-free tears.

2. **Shields**

The shields can be off the first day after surgery, but I usually instruct patients to use the shields at bedtime or while napping for at least a week after surgery to avoid any inadvertent injury to the eyelids or the flap.

3. Lubrication

Lubrication is extremely important, as the symptoms of foreign body sensation will increase the first day after surgery, as the patients will be more mobile and using more of their vision, blinking more. Superficial corneal epithelial defects will be more symptomatic.

My preference for lubrication is Thera Tears, with my second choice being of the other non-preserved tears, Refresh, Bion Tears, Refresh Plus, etc. Some patients prefer Celluvisc, although my experience has been Celluvisc is quite viscous, and results in significant blurred vision after its instillation, and is my least favorite of the drops. In patients who are prone to have dry eye, or who are at more risk for dry eye or who will be in a dry environment, punctal occlusion may be of significant benefit.

Punctal Occlussion

I usually start with occluding the inferior puncta. They usually channel 90 percent of the tears present on the tear surface, and while they are occluded, the superior puncta do become more dominant and end up channeling about 50 percent of the tear present, thereby reducing tear removal from the lid opening to about 50 percent.

4. **Driving**

Driving is quite a big responsibility to allow in all patients. Patients are free to drive if their vision is good, uncorrected 20/40 or better, and they feel relatively comfortable. My recommendation on driving the first day after surgery, is to use caution, as visual acuity may fluctuate. In addition to significant dry eye symptoms occurring with extended driving, that this can become an issue if the patient is driving on his own for a lengthy distance, and thus, I wound not encourage patients to drive. I believe it would be reasonable to state if their vision is excellent and the eye comfort is adequate, they could drive, but to exercise caution at that point.

5. Eye Rubbing

A very important point to elaborate with patients would be eye rubbing. The shields are not on any more the first day to the first week after surgery, and if there are any problem with the eyes, patients will be tempted to rub their eyes, increasing the risk of possible flap movement. I would stress caution against eye rubbing from the first day to the first week after surgery. As mentioned previously, I would strongly recommend the use of shields at bedtime or while napping for the first week after surgery.

III First Postoperative Evaluation

I usually like to focus on the following:

1. Patient Comfort

This will determine the “game plan” regarding supplementation medication and/or punctal occlusion.

2. Ophthalmologic Examination - Positioning of the Flap

It would be very important to note any striae, certainly if they involve the visual axis, and/or mismatch of the flap to the underlying stromal bed.

3. Clarity of the Interface

It is very easy to confuse superficial punctate keratopathy with inter-lamellar opacities and inflammation. Obviously the point of interest here would be any clinical signs of inflammation in the flap interface.

DLK

In such situation, always diffuse lamellar keratopathy should be considered and increasing the corticosteroid management in the follow-up visits will be in place to avoid any further regression in refraction and scarring of the interface. Usually DLK is not a significant problem if diagnosed early and managed appropriately with the "stronger" topical corticosteroids used every hour, if necessary, i.e., Pred Forte every hour, for a couple of days until the interface inflammation has subsided significantly.

4. Uncorrected Visual Acuity

I usually obtain uncorrected visual acuity on patients in both eyes and in each eye separately. Patients who have less than 5 diopters of myopia or are under 2 diopters hyperopic, I expect them to see around 20/40 or better with both eyes the first day after surgery. In patients who are over 5 diopters of myopia and over 2 diopters of hyperopia, I expect them to see about 20/60 to 20/40 the first day after surgery, depending on the condition of the corneal epithelium and the amount of edema of the flap, and of course, the presence or not of epithelial defect or abrasion.

5. General Hygiene

Patients off shields now on the first day are free to shower or wash their hair, but I would like for patients to avoid any contact with soap water or anything considered non-sterile in their eye surfaces, and of course, I would avoid using cosmetics the first week following surgery.

III One Month Following LASIK Procedure

1. Comfort

What was stated previously is also applicable to this point as well. Symptoms of dryness can be taken care of with preservative-free tears and / or punctal occlusion, avoidance of direct contact with blow dryers, the automobile vents, and dusty environments. Patients may have some visual discomfort with the presence of halos the first couple of weeks after the procedure, and reassurance is of essence here, as halos are normal the first couple of weeks after the procedure, as there is some mild corneal edema and that corresponds with halos after the procedure.

Obviously patients who have pupillary size over 6 mm in diameter and very light conditions are at high risk for halo complaints, even long-term after the procedure, and should be considered for a larger ablation zone, and/or different procedure. Obviously participation in sports for patients who are active physically becomes an issue after the first week of the procedure, and again, caution should be utilized here. I usually allow most patients after one week to engage in activities such as running, working with weights, etc. Contact sports, however, do require a higher level of caution.

2. Vision

It is very important to encourage patients, when obtaining their visual acuity measurements, as visual acuity clears slowly at those last lines from 20/30 to 20/25 to 20/20 in the weeks following the procedure. Encouragement and reassurance here will help in making the patients feel better. As you know, the patients are usually quite comfortable with visual acuities of 20/40 or better and do not become very specific with their visual acuity unless this is elicited by the clinician to them. Near-vision problems are expected in patients over the age of 35 the first few weeks after the procedure, as if emmetropia was planned in these patients, they will tend to be on the hyperopic side, at least +0.50 to +0.75.

In patients who do significant near-work, and this becomes an obstacle to their leisure or work, temporary reading glasses are not an unreasonable thing to suggest for the first two to three weeks. Also, the patient being made aware of this fact prior to the procedure would represent a significant comforting factor in reducing patient anxiety. Night driving problems as the result of halos or others with not perfect vision can become an issue and present significant problems in night driving. These individuals should either avoid night driving or use refractive spectacles to do so. Patients should be aware for their vision to fluctuate some in the early postoperative period, varying throughout the course of the day and due to the condition of the ocular surface hydration.

3. Prevention / Prophylaxis

This subject was previously touched on before regarding sports and other outdoor activities for the first month after LASIK. Contact sports should raise significant caution, i.e., wearing goggles while playing basketball, or other contact sports such as football, etc., would not be unreasonable for the first month or so after the procedure. Eye rubbers should exercise extra caution in avoiding direct corneal injury, etc.

4. Under or Over-corrected Patient Management

Usually patients are not aware that they are under or over-corrected until this is revealed to them by their clinician. This should probably be avoided, as it does raise the patient anxiety level. Patients who do acknowledge not having excellent visual acuity could be told in a straightforward manner and to prepare them for the possibility of an enhancement. What does relieve their anxiety is the fact that most enhancements are done without re-cutting the flap, which is the most "anxiety-genic" part of the procedure. The best time for an enhancement is between 2 ½ and 3 months, given that the prescription has been stable, as well as the surface topography.

IV Management of Postoperative Minor Problems

A. Dryness

This subject was already discussed, stressing the use of artificial supplemental tears, along with punctal plugs, which may help here.

2. Transient Presbyopia

Transient presbyopia is especially a problem for those patients over the age of 35, as discussed previously.

3. Flap Folds

If flap folds are noted at any time in the one month postoperative period, early management of the folds does significantly reduce the risk of those becoming permanent. Usually flap folds do not go away on their own, and we have been very successful in managing flap folds, even if they are present several months after the procedure. Therefore, immediately consultation with the surgeon would be in place if a patient was noted to have significant flap folds, especially if they cause any visual or topographic abnormality, and definitely if they involve the visual axis.

4. **Diffuse Lamellar Keratitis** ("Sands of the Sahara")

Diffuse lamellar keratitis (a rare but significant complication with LASIK) with early diagnosis dramatically improves in prognosis. Every hour steroids the soonest following the presentation of DLK will significantly reduce its potential for scarring of the interface and regression of the refractive surgery.

5. Infectious Keratitis

Although extremely rare, infectious keratitis with the procedure is always a significant fear. Any sign of infiltration present either at the flap margin or within the interface should prompt consultation with the surgeon for possible irrigation of the flap and alteration of the postoperative antibiotic regimen, as well as the possibility of obtaining cultures for further analysis. Pts with an abrasion that are patched with a bandage CL need close monitoring for any potential infiltrate development.