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Post-LASIK dry eye management pearls

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For anyone who wears contact lenses, dry eyes can be a very common symptom. The same can be said for patients post-LASIK. I counsel patients about the increased dryness that they will experience during the first few months after surgery. Most patients will improve within the first month or two whereas a few may take longer. For whatever reason, whether it is the healing of the flap, temporary goblet cell dysfunction, or the absence of wind protection from their habitual lenses, the patient will feel the need to use artificial tears more often at first.

Non-preserved artificial tears (Refresh Plus) are started the day after the procedure and are continued every one to two hours during the first week postop. The important ingredient here is carboxymethylcellulose sodium which helps the healing of the corneal epithelium and the conjunctival goblet cell layer. I also recommend a thicker, more concentrated carboxymethylcelluse agent (Celluvisc) at night before going to sleep. After the first week, the artificial tears can be decreased at the discretion of the patient as dryness symptoms decrease or as physical signs of improvement are noted by the doctor. If mild to moderate SPK is apparent after the surgery, the frequency of artificial tear use should be maintained at every one to two hours. Also, Celluvisc may be substituted instead of Refresh Plus during the day, until the SPK has improved. Celluvisc is especially useful for those who exhibit signs of Nocturnal Lagophthalmus. The artificial tears should be non-preserved for the first three to four weeks to prevent toxicity to the cornea as it is more sensitive in the early stages of healing. Systane and Refresh Liquigel are oilier and may create a route for epithelium to get under the flap edge leading to ingrowth. Because of this, these drops are avoided for the first month of healing.

If the patient is unresponsive to the artificial tears, then Restasis can be used BID to help increase the production of tears. It will take at least a month for tear production to increase after Restasis is started. We had several patients who took six months to experience increase in tear production. Other options like flax seed oil or fish oil may also strengthen the tear film or Doxycycline can be prescribed for meibomian gland dysfunction. Punctal plugs should be considered for more severe cases of dryness. A recent study has shown that Restasis used with punctal plugs is only contraindicated in those diagnosed with Sjogren's syndrome. I also counsel the patients who use computers heavily, that their decreased blink rate may contribute to the sensation of dryness or blurriness and they should remember to take periodic breaks throughout the day.

With proper patient management, patients with dryness will have less anxiety with their healing process. Let them know that the dryness will improve and that you cannot lubricate too much. They may also be reassured that dryness will cause fluctuations in vision and will see much better once the dryness is controlled.

Newsflash: Intralase FS30 Upgrade: Faster, Tighter, Ultra-low energy

Intralase FS laser has been upgraded to increase the speed of laser pulse placement to 30,000 pulses of light per second (30KHz). The original technology operated at 10,000 pulses of light per second. It was then upgraded to 15,000 pulses of light per second. And now, the third generation technology is operating at the ultra-fast rate, allowing for faster procedure time, tighter spot placement, and ultra low energy. Intralase procedure time has now been reduced to 30 seconds per eye, improving patient comfort. Laser spot placement is tighter, allowing for ultra smooth bed with the minimal energy and little wait time between Intralase and Excimer steps. Low energy enhances healing response and reduces the incidence of light sensitivity previously reported with the first- and second-generation platforms.

Preoperative counseling and postoperative care of patients with Intacs for corneal thinning disorders

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We have been using Intacs to treat corneal thinning disorders, such as keratoconus and pellucid marginal degenerations, for the past six years. Our youngest patient is 17 years old and the oldest is 61. All of the patients have been comanaged with our PVI affiliated practices. Intacs revolutionized how we treat ectasias. Patients who would, otherwise, need penetrating keratoplasty, can now see well with comfortably fitting soft contact lenses.

Who is a candidate for Intacs?

Any patient with corneal thinning disorder regardless the etiology should be evaluated for Intacs and counseled about the procedure. If the patient can wear contact lenses with good vision, comfort, and clear ocular surface, they don't need the procedure. If their contact lens tolerance decreases, if they simply can't get good enough vision with the lenses, if they would like to get better vision with glasses, Intacs should be considered. Patients should be counseled that, even though their uncorrected vision is likely to improve after the procedure, the procedure will not take them out of glasses and contact lenses. The procedure is designed to improve contact lens wear comfort and vision WITH contact lenses, and to help the patient possibly transition from hard lenses to soft lenses, and perhaps even have good vision with glasses. Corneal examination should rule out central or apical corneal scarring. Most corneas without central corneal scarring can be rehabilitated with Intacs, regardless of their curvature or etiology of the corneal thinning discorder.

What are the steps in the treatment process and have there been any changes in the procedure since 2000?

Patients are instructed to discontinue contact lens wear for one to three weeks prior to the procedure. Corneal topography is repeated to determine the steep axis of the astigmatism. The incision will be placed at this axis. We can now use Intralase FS laser to create corneal channels for the Intacs. The channels are placed at 80% corneal depth. The thickness of the segments depends on the severity and the pattern of ectasia. The segment thickness ranges from 0.25 mm to 0.35 mm. Thinner segments are used for smaller spherical equivalents. Corneas with pellucid marginal degenerations are often rehabilitated with a thicker inferior segment and a thinner superior segment. A single suture is placed across the incision.

What should be monitored during the postoperative course?

We should attempt to keep the incision suture in place for at least 3 months postoperatively. If the suture loosens, the incision should be reassessed to determine if it needs to be resutured. The patients are typically seen by the surgeon during the first two to four weeks postoperatively. Then, they can should follow up with their primary eye doctor and return at three month for suture removal. Contact lenses can be fit after the suture is removed. It takes about a year after the Intacs placement, for the corneas to be fully rehabilitated and for the refraction to stabilize. Typically, the patients do very well with soft contact lenses.

Photos 1 and 2. Before(left) and after(right) Intacs placement to treat pellucid marginal degeneration.

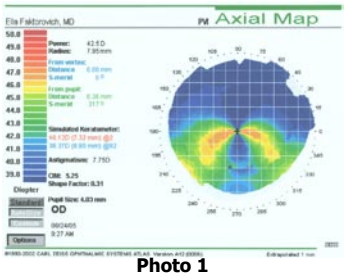

Photo 1 **Photo 2**

Photos 3 and 4. Before(left) and after(right) Intacs placement to treat advanced keratoconus. Postoperatively, the cone is more centered, allowing for better contact lens fit.

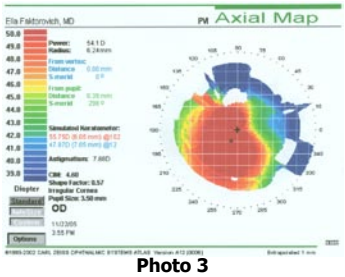

Photo 3 **Photo 4**

Photos 5 and 6. Before(left) and after(right) Intacs placement to treat mild keratoconus. Postoperatively, the cornea is less irregular with improved uncorrected and best-corrected vision.

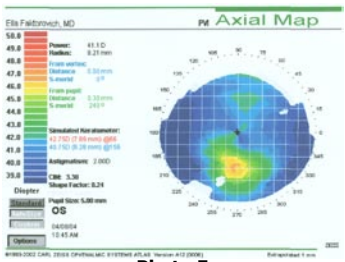

Photo 5 **Photo 6**

Post-refractive surgery enhancements: who, why, and when

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Following laser vision correction, despite our best efforts, there may be a few patients who will develop regression. Some patients may be slightly under- or over-corrected. Less than 10% of the patients will need an enhancement, but this need should be carefully evaluated in each patient.

The need for a touch-up is not based solely on the residual prescription, but also on how comfortable the patient is with their vision. Before discussing an enhancement, the patient is asked if they are satisfied with their vision. Some patients can be perfectly happy with 20/40 whereas others can be having problems with 20/20-. Some patients are just fine with wearing glasses for the times when they want better vision such as nighttime driving, for example. Others, want excellent uncorrected vision at all times.

You need to assess several factors before deciding if the patient is a good candidate for enhancement – life style, patient expectations, refractive stability, corneal surface, pachymetry, and corneal topography.

A fifty-year old patient with -1.00D residual myopia in one eye should be counseled strongly against an enhancement. You may even consider prescribing a -1.00D contact lens to simulate the vision after the enhancement. You may find that the patient prefers the status quo after trying the contact lens. If the patient ends up -1.00 in both eyes after plano OU correction was intended, still consider contact lens trial in the dominant eye or simply recommend an enhancement in the dominant eye first. More often than not, the patient will elect not to enhance the other eye and maintain the mild monovision even if it was not planned originally.

Mild postoperative prescription can cause glare and haloes at night. A pair of glasses for night-time driving may be a simple and effective solution for such a patient with, otherwise, good day-time vision, especially if the patient is a presbyope. A younger patient, on the other hand, is more likely to choose enhancement rather than glasses for night-time driving. The glasses should be tried, nevertheless, to help decide if enhancement needs to be standard or wavefront-guided. If the glasses fully correct the patient's glare and haloes, the patient will do well with standard enhancement. If the glasses don't fully correct the symptoms, wavefront-guided enhancement is recommended to treat the higher order aberrations.

Refractive stability is assessed starting at three months postoperatively and then Q1 month until the sphere and cylinder are stable within 0.25D and cylinder axis is stable within 15 degrees. Undercorrection and regression in myopes are typically enhanced between 6 months and one year postoperatively. Overcorrections in myopes typically regress without any intervention during the first 6 months postoperatively, especially in patients with high myopia preoperatively. If overcorrection persists beyond six months, stability can be checked monthly until stable. Typically the enhancement is performed closer to a year postoperatively. With the advanced laser software, the enhancement results for undercorrections, regressions, and overcorrections have been excellent and precise.

A cycloplegic refraction is recommended to rule out any accommodative factors especially if a low amount of minus is found. Topography should be performed to rule out ectasia as a cause for regression. Pachymetry should be checked. Any central SPK should also be treated to insure that there is no corneal edema and to get the absolute best-corrected VA.

The enhancement procedure involves lifting the corneal flap and application of the laser. A bandage contact lens is placed for about one to three days before removal. The bandage contact lens helps in the healing process and reduces the risk for epithelial ingrowth.

Since the correction is typically small, the healing process is very quick. Post-operative dryness is also less prominent. Follow-up care after enhancements is the same as with any LASIK procedure. Econopred and Vigamox are prescribed for one week on four times a day with lots of artificial tear lubricants. The patient is monitored at one day, one week, one month, three months, six months, and one year post-op. A PRK patient will go through the same procedure and recovery as the original surgery. Due to the lower correction at the enhancement the chance of regression will be minimal after the procedure.

"I trust a person like me": how we can embrace word-of-mouth marketing to grow our practices

Interview with Alyson Jackson, Patient Education Counselor, Pacific Vision Institute
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What affects the choices patients make? Whose opinion matters? Increasingly, we find that friends, either real or those found in the rapidly expanding blogosphere of the internet, influence the patients' opinion about many things – from what movie to see, to what software to download, to what doctor to trust.

In a recent worldwide survey conducted by the Edelman global PR firm, most respondents stated that their most credible source of information is from "a person like me" which has risen dramatically to surpass doctors and academic experts for the first time. In the U.S., trust in a "person like me" increased from 20% in 2003 to 68 % today! Most respondents also consider the employees to be more credible spokespeople for the business than owners or CEO's (42% vs. 28%).

Alyson is a PVI patient educator and is just like many of our patients – a well-educated and intelligent individual with high standards and a discerning eye for quality care. She relies almost exclusively on her friends for recommendations because, she states, "just like me, they expect the same level of care." Her preferred method of communicating with her friends? E-mail. Will she ask your employees questions about your practice? Absolutely. How likely is she to share her experience with her friends? Very likely. What will inspire her trust in your practice? Clean, up-to-date environment; pleasant, smiling staff; informative, but down-to-earth doctor who is "almost like a friend."

Peer-to-peer communication has become the No. 1 method of marketing in this new age of personal media – from e-mails to friends to reading web logs (blogs) of like-minded consumer-patients, it is "a person like me" whose opinion matters.

What can we conclude from this?

1. Build a friendship-based relationship with the patients – they trust friends
2. Communicate with your patients electronically – they will read their e-mail and forward it to their friends. Friends will take their friends' recommendations.
3. A your patients to refer their friends
4. Educate your staff – patients will ask them questions and may even ask their opinion of your practice.
5. Forget the TV and newspapers – advertise on Internet, place your information on city search, on craigslist, on yelp.com, on tribe.net, on eye care portals.
6. Start your own web log! Big companies do it.

2006 calendar of the Upcoming Events for PVI Affiliated Doctors:

03/17/06: 5th Annual San Francisco Cornea, Cataract, and Refractive Surgery Symposium
04/19/06: Staff Training
05/17/06: PVI Grand Rounds - Allergies
07/19/06: PVI Grand Rounds - Cataract and Refractive Surgery
08/02/06: Staff Training
09/20/06: PVI Grand Rounds - Glaucoma
10/18/06: Staff Training
11/15/06: PVI Grand Rounds - Retina

Sight Gags *by Scott Lee, O.D.*

"Stop wasting it! I don't care if your eyes are dry!"

Note from the Editor-in-Chief: *Thank you for all your great comments on the first issue of eFocus last month. Our goal is to keep you up-to-date on the latest in eye care. Let me know how we are doing: drlee@pacificvision.org.*