Pacific Vision Institute:

eFocus

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Pacific Vision Institute held its 5th Annual San Francisco Cornea, Cataract & Refractive Surgery Symposium on March 17th at the Four Seasons hotel. Top doctors gave a very informative and entertaining seminar. For those of you who attended the Symposium, we thank you for coming and hope you enjoyed yourselves. For those who were unable to join us, we have summarized the main points from each speaker for you.

Scott Lee, O.D. Director of Clinical Care, Pacific Vision Institute; Editor-in-Chief eFocus; drlee@pacificvision.org

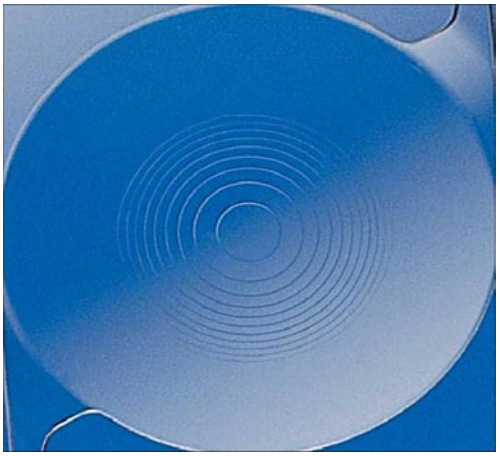
State-of-the-art cataract surgery and evolution of prebyopic IOL's

Berry Seibel, M.D., Director of Lens and Cataract Surgery, Pacific Vision Institute

One of the new IOLs being used today that offers the patient near focus ability is the Acrysof ReSTOR Apodized Diffractive IOL. The lens consists of diffractive ridges, similar to a Fresnel lens, that decrease in diffractive step height from the center to periphery of a 3.6mm diameter region. Each ridge splits near and distance vision and with lower step heights and less vision splitting in the periphery, the ReSTOR IOL creates less dysphotopsias. A +3.20 power add is created at the spectacle plane. When reading, the pupil constricts (especially with added reading light) utilizing the IOL more centrally where the larger steps are dividing the light equally between the distance and near vision. When the pupil dilates, the periphery of the lens is exposed where the steps are smaller and more concentrated for distance.

Night vision problems, glare, and halos can be more common with ReSTOR versus a monofocal lens. However, because the patients like their ability to read more than they dislike their night problems rarely does a patient chooses to have the ReSTOR extracted. Patients need to be counseled about the possible dysphotopsias at night before surgery to set proper expectations. Our data shows an uncorrected distance VA mean of 20/20 and uncorrected near mean of 20/25.

Considerations in choosing a candidate for the ReSTOR IOL are patients who no longer desire to wear glasses, functional and occupational requirements, degree of general alertness, ocular pathology, patient's visual demands, expectation for near vision needs, and if they qualify for bilateral implants. You may want to exclude hypercritical patients, those with unrealistic expectations, and occupational night drivers. Other possible exclusions are those with >1.00 D of astigmatism, pre-existing ocular pathology, and individuals who already have a monofocal lens.



ReSTOR IOL: notice the decreasing step heights as it progresses from the center to the periphery.

Another IOL to consider is the accommodating Eyeonics Crystalens. This PC IOL moves foward with the change in vitreal pressure caused by the flexing of the ciliary muscle. This small

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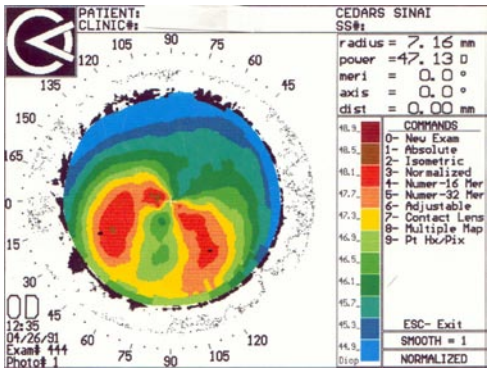
Detecting early keratoconus and identifying risk factors for corneal ectasia

Yaron Rabinowitz, M.D., Director Keratoconus Foundation, Clinical Professor of Ophthalmology Jules Stein Eye Institute, UCLA School of Medicine.

Corneal ectasia is a progressive corneal thinning condition which is a contraindication to LASIK because it can result in even further corneal thinning and loss of best-corrected vision. Ectasia screening is a corner stone of successful preoperative LASIK screening. To reduce the incidence of ectasia, a topographical screening test must be used to detect early signs of Keratoconus and Pellucid Marginal Degeneration. Pachymetry is also done preoperatively and intraoperatively to detect thinner corneas not suitable for surgery. If suspect, a differential pachymetry reading can help confirm Pellucid or Keratoconus patients. There can also be a hereditary risk, so ask about family members during your patient screening process.

Pellucid Marginal Degeneration is a rare bilateral progressive ectasia that acts similarly to Keratoconus. The two can be differentiated with slip lamp evaluation and topography. Pellucid is characterized by a peripheral band of thinning from 4 to 8 o'clock. There is a 1 to 2 mm area that is uninvolved between the limbus and the thinning. Protrusion is most apparent above the area of thinning with a normal central corneal thickness.



A typical Pellucid Marginal Degeneration shown here with corneal topography

The clue to finding pathology is ASSYMETRY in the topographical map. Look for an assymetric bowtie with a skewed radial axis pattern. If in doubt, a cycloplegic retinoscopy can be performed to look for scissoring in the light reflex common with the assymetric pattern. Contact lens warpage must also be ruled out in both RGP and Soft Contact Lens wearers. A useful measurement when analyzing the topography is the I-S value, which is the dioptric difference between the inferior and superior cornea.

When considering an enhancement, the residual corneal bed thickness should be measured. Since all microkeratomes vary in the ultimate flap thickness, the residual stromal bed needs to be assessed to ensure the enhancement is not contraindicated.

Wavefront mapping can also help detect early Pellucid and Keratoconus. Unusual higher order aberrations can be a sign, specifically high RMS Coma. The combined use of I-S value and RMS Coma can help separate normals, early Keratoconus, and Keratoconus suspects better than any other method.

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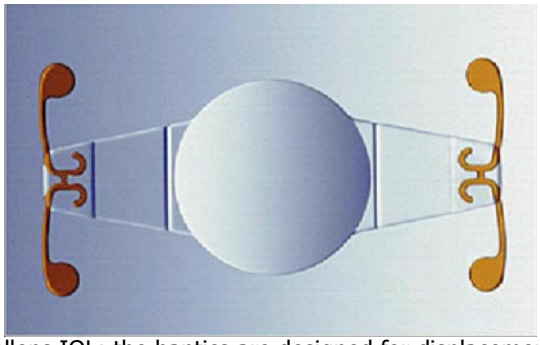
change in position within the posterior chamber creates a power change of up to +3.00 dioptors. However, we can only use half of our accommodative power comfortably so the Crystalens can give +1.50 dioptors functionally. This makes this IOL better for intermediate vision. It has lower glare incidence than ReSTOR since it does not utilize the diffractive step design. Crystalens also has no reduction in contrast sensitivity. The ReSTOR lens gives better sustained near vision and has a low PCO rate. Visual demands can determine which lens best suits the patient.



Crystallens IOL: the haptics are designed for displacement of the lens for accommodative power.

Postoperative management pearls for cataract and phakic IOL patients

Ayman Naseri, M.D., Chief of Ophthalmology, VA Hospital, San Francisco

Cataract surgery has come a long way and surgeons have become so skilled that 20/20 one day post-op is fairly common and it isn't always apparent which eye was operated on. However, problems can still happen and it helps to be present in the O.R. when the complication occurs so you know what you're looking at post-operatively. Most of the time, though, we see patients without knowledge of any surgical complications. Co-managing O.D.s may want to involve themselves as much as they can before, after, or even during the surgery.

There are many different ways to looking at complications, but Dr. Naseri focused on how the patient is seeing. Vision loss following surgery can be categorized as early (1-10 days post-op), which are more concerning, and late problems (weeks after surgery). When considering early problems, it's important to remember that many of these patients have pre-operative disease and knowledge of these diseases can help figure out why a patient has visual loss. Pre-existing conditions such as ARMD or Keratoconus will limit their VA after surgery. The presence of an APD is also important to determine how urgent the problem is.

Decreased vision without APD could be as simple as toxic keratopathy from the topical anesthetic or post-op drops. Corneal edema is not as common nor as intense now, but should be near the wound if present. Diffuse edema or localized edema away from the wound should raise some red flags and comprised endothelium should be checked for. IOL or capsular instability can also be a factor, whether it be caused by pseudoexfoliation, trauma, or zonule loosening during surgery.

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The more serious problems may present an APD and it's extremely important to detect. Many times the operated eye won't show the problem due to the dilating or constricting of the pupil by drops used during surgery so a reverse APD should be checked for. With a patient presenting a CRAO, optic neuropathy, or ischemic optic neuropathy it would be good to know what type of anesthesia was used, i.e. retrobulbar block, topical, or general. The surgeon may wonder if the problems were related to the block or were there other predisposing factors. CRVO, which is more common in glaucoma patients, is another complication to look out for as is ischemic CRVO, which can lead to neovascularization and neovascular glaucoma later.

Another complication we should be aware of is endophtalmitis, whether it be the early form, which is more devastating, or the late form.

Check to see if a patient is Seidel positive or has a low IOP to make sure there's no open wound. A suture used at the wound site may be a clue that something was not normal after surgery. Retinal breaks are also something we can see post-operatively, although the detachment needs to be pretty extensive to cause an APD.

The two common problems that are seen late are cystoid macular edema and posterior capsule opacities. CME tends to peak at about 6 to 12 weeks and can be detecting using a less invasive OCT instead of an angiogram.

Avoiding and managing medical malpractice cases

Robert K. Maloney, M.D., Director Maloney Vision Institute, Los Angeles

Nowadays doctors are getting sued more than they should be. In California, it starts off with a letter from the insurance company saying that you're being sued. California law states that the letter needs to be issued notifying you that a lawsuit is being filed against you in 90 days.

After receiving the letter you would call your insurance company who will then assign you someone from a panel of lawyers you're allowed to use. The bad news is that the insurance company is not on your side and the lawyer is not your friend. According to recent data, it costs the insurance company an average of $45,000 to go to court and win your case and $60,000 in losing cases. So it doesn't cost them much more to lose a case thereby, not giving them much incentive to put much effort in helping you win with a great defense that would be costly. The lawyer they prefer to assign you is the one that will get through your case fast and cheap and hope they win. The lawyer wants to keep costs low so they can stay on the insurance company's panel. The insurance company does not pay the defending lawyer very much so lawyer would rather get a group of his lower paid junior lawyers to do the work instead. This leaves you with a sub-standard defense.

The best thing to do for yourself (besides avoiding the lawsuit in the first place) is find the best malpractice lawyer you can and then report your letter to the insurance company and insist on using your own lawyer. You may want to watch your prospective

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Medications update in cornea, external diseases, and refractive surgery

Ella Faktorovich, M.D., Director Corneal and Refractive Surgery, Pacific Vision Institute

There are new topical NSAIDs on the market now called Xibrom and Nevanac. NSAIDs are useful in reducing pain and inflammation and to inhibit intraoperative miosis. By inhibiting the production of prostaglandins, there is a decrease in pain, redness, swelling, and inflammatory cells. However, there are some concerns when using NSAIDs such as risks for corneal melting, infiltrates, and ulcers. It may also inhibit re-epithelialization when used for corneal abrasions. Although the use of Voltaren inhibits production of prostaglandins, an alternate reaction is triggered which leads to the production of Leukotriene E4. This alternate pathway results in corneal melting and infiltrates.

Risk factors for NSAID-related corneal complications include frequent and prolonged use (daily for more than 30 days), postoperative use in cases of PKP, cataract, PRK, or glaucoma procedures, diabetes, age, and the type of NSAID used (diclofenac has the highest risk although it is now off the market). The risk is at its lowest when using the drops less than QID, for no more than several weeks, for allergic conjunctivitis, in younger age groups, and when avoiding Voltaren. The new NSAIDS show a lower risk for corneal complications, particularly Nevenac. Nevenac is a prodrug that has quick penetration into the eye and does not convert into an NSAID until it is already inside the eye. Due to the minimal surface accumulation there is a lower risk for surface toxicity.

A new topical analgesic is available as a safer alternative to control pain. Topical anesthetics block the sodium/potassium pump in all cell membranes including epithelium which delays re-epithelialization. Topical opioid receptor agonists bind to specific opioid receptors found only on nerve cells, thus relieving pain with no affect on epithelial cells. During injury (i.e. abrasion, surgery), opioid receptors are upregulated on peripheral nerves. Topical opioids block these peripheral receptors only without any effect on CNS receptors. Dr. Faktorovich will be studying the use of topical opioids in PRK cases to control pain and discomfort. She encourages anyone who is a good PRK candidate to contact the office to enroll in the study.

Restasis is a great treatment for dry eyes. The drop treats T-Cell mediated inflammation and may also be useful in treatment other conditions such as Atopic Keratoconjunctivitis, Meibomian Gland Dysfunction, and possibly Thygeson's Keratopathy (as seen in one case recently that was unresponsive to FML alone).

In other dry eye treatment, a new generation artificial tear has been affective in relieving dryness due to a poor lipid layer in the tear film. Most artificial tears just replace the aqueous, but Soothe, a fourth generation artificial tear, replaces the lipid layer, as well. Soothe uses metastable emulsion to allow immediate lipid layer replacement preventing the aqueous from evaporate before the lipid layer is fully formed.

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lawyer in action to be sure he is good at what he does. There's a chance your lawyer is not on their panel, so insist upon the best lawyer on the panel instead. If anything, you should have your own lawyer to watch over their lawyer to make sure they're doing their job. It may cost you $400 an hour to do that, but you would lose much more if you lose your case.

As a co-managing doctor also being sued, you should never accuse the other doctor(s) of screwing up. If everyone is pointing fingers, there's already admittance of malpractice and the case is pretty much lost. Another pearl is to not alter a chart to hide your mistakes. It's better to admit your mistake and get sued then to get caught trying to conceal your mistake. Your deposition is also critical since that is where you'll be asked all the questions. A good idea is to get a coach to help you. The insurance company will even pay for one. You also need to get an expert witness for the deposition to back up what you say.

It's best to just avoid getting sued in the first place. People usually don't sue because of bad surgical results. They sue because you have a bad relationship with their doctor. So maintaining a good relationship with your patients is key. If a complication arises, it's important to express regret and maintain communication. Communication is the key to avoiding a lawsuit. Face the patient, don't avoid them. It's important to let the patient express their frustration because that will more easily lead to a resolution. Also, get the surgeon involved early and often.

LASIK economics: a departure from traditional supply vs. demand

Shareef Mahdavi, M.D., SM2 Consulting

It's been ten years since the first approval of PRK and since then about 10 million eyes have gone through laser vision correction. There has been a very strong desire to get rid of eyeglasses among the public, but that has not translated into the mass public getting surgery. This is due to each person's battle between hope and fear. Even lower prices did not translate into more surgeries simply because we dealing with people's eyes. The number of surgeries started to grow when technology advanced like with the Wavefront and Intralase. The prices started to rise as surgeons were able to offer a safer procedures. However, patients aren't buying the technology; they're buying a benefit of getting rid of glasses.

Technology drives the patient's interest, but making assumptions about their thoughts on prices and what they want drives them away. Marketing has changed from just being about reputation or advertising to being about service. Customer service is a way of life now in doctors' offices. You can lose patients because of the attitude of your employees. "Providers must change their outlook from delivering a technology to delivering an experience." A patient experience should be far removed from a regular doctor's office visit. That is what will get a patient away from price shopping to going where they feel good.

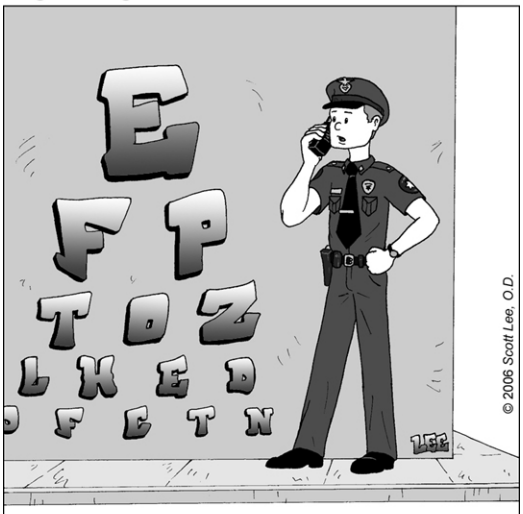
When a person becomes aware of the LASIK option they become excited and hopeful that they can get rid of their glasses. They then call for a consultation and just then fear kicks in when they think about what they're considering to do with their eyes. It's the doctor's job to manage that fear. Once the patient has the surgery, happiness sets in at the one day follow up when their vision is much improved. But a good way to build your practice is to extend that same level of happiness throughout the entire process. The staff is also a key to the customer experience and it starts with the "trigger" event, the initial phone call.

The hot topic today is the premium IOL. There's a large amount of baby boomers developing cataracts and presbyopia now. They will have the money to spend on premium IOLs because they're past their peak of debt and are accumulating more income. But what will make them want to use the money on surgery rather than going to the spa for a week? The answer is to meet their expectations and give them a great experience along the way.

2006 calendar of the Upcoming Events for PVI Affiliated Doctors:

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.*



"Be on the lookout. That gang of optometrists is back in town."

Note from the Editor-in-Chief: *Stay tuned for the information on how you can sign up for the upcoming workshops on the anterior segment* ***high resolution OCT diagnostics****. PVI is the only center in Northern California to offer and teach such workshops on the advanced diagnostics of the anterior segment.* drlee@pacificvision.org.