

# EYE NEWS

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## A Note from Dr. Winthrop

I want to open this year's newsletter with reflections on my professional life as an ophthalmologist. I must admit that never in my wildest dreams did I think my career would be as fulfilling and rewarding as it is. I credit this to two things: experience and technology. I can still remember as a fellow at Harvard being in the clinic with other fellows and being challenged by our professor. We thought of ourselves as the best and brightest, and would not hesitate to give our opinions on patient care and management. We would roll our eyes when a professor disagreed with us, and then later have to sheepishly acknowledge that the professor's management plan resulted in a successful resolution of the patient's problem I now realize this was experience in action. Experience translates into better patient outcomes, whether treating a medical problem or a surgical problem. What people often think of as random luck is actually experience, or its absence, at work.

The other side of the coin is technology. Mind boggling technological advances in medicine have occurred at a breath-taking speed over the past 30 years, and continue as I write this. Every aspect of medicine has benefitted. Admittedly, the costs of these advancements can be steep, but the end results are just so stunning. Much of the "guess work" doctors were forced to do in the past has been replaced by hard factual, reproducible data that allows better patient management in both the medical and surgical arenas. The practice of medicine is still an art, and will always be to some extent; every human body is a unique organism. However, much of what was previously unknowable is now answered through advances in technology. It is a privilege to work with these breakthroughs.

In every newsletter I share advances in cataract surgery and LASIK, and even corneal transplantation. After performing many thousands of LASIK procedures, I am still awestruck by LASIK technology. I've had my own in-office LASIK suite, which is exclusive to my use, since the year 2000, and I have owned

four Excimer lasers. The majority of the people who now request LASIK are "Millennials", most commonly referred through social media by friends for whom I previously performed LASIK. The children of my earlier LASIK patients are also coming in now for the procedure. It is

great fun to visit with my earlier LASIK patients as they come in with their kids. They are still so happy and consistently tell me that having LASIK was the best medical and financial decision they ever made. LASIK has turned out to be a bridge in the care of family generations.

From my fellowship training as a corneal transplant surgeon to the present day, corneal transplants have also evolved tremendously. In the earlier part of my career, the only procedure offered was full thickness transplantation where the entire thickness of the cornea was removed and replaced. The surgery was successful, but the recovery time was typically six to twelve months, with the potential for various problems along the way. Now, in the majority of cases, I can replace just the innermost, diseased endothelium. This procedure can be performed with a small, peripheral incision that greatly reduces the

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## Thank You For Your Referrals

Each year we definitely want to recognize and thank you for your referrals. Dr. Winthrop continues to see new patients in his practice of comprehensive ophthalmology. It is our pledge to give your family and friends the same care you enjoy, whether they are seeking a routine eye exam, a surgical treatment, or a second opinion.



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potential for complications. Post-operative recovery is now one or two months. Much better!

Cataract surgery, as described elsewhere in this newsletter, has become a refractive procedure similar to LASIK. What does this mean? For the majority of my career, the goal of cataract surgery was to remove the cataract (the human lens which has clouded over) and replace it with a synthetic intra-ocular lens (IOL) that improved vision in conjunction with new glasses. The hope was that the chosen IOL would be close to what was required, but there was no mechanism to correct existing astigmatism, or to prevent astigmatism induced by the surgery itself. Nor was it possible to correct for distance. Now, available technology allows me to achieve outcomes in cataract surgery that are similar to that of LASIK. Totally amazing!

Moving over to the personal side, I must first thank many of you who through the newsletter have followed the flight of my children, know their names and ask about them on your visits. Sam, our oldest, is living in Los Angeles and still thriving in the world of finance at the same hedge fund. He related to me that his hedge fund has been in the top 10% for the past three years running. Sam greatly enjoyed last year's ski season, still travels a great deal and is almost always on the go.

Mia has finished her first year of post-graduate training at the LAC/USC Medical Center and passed her Step 3 medical exam, which means she is now a licensed physician able to practice medicine. Wow! She is very happy in her field of Pediatric Psychiatry. Her vacation time this year was spent traveling in Spain with her boyfriend, a trip to Santa Fe with Betsy, and skiing.

Our youngest, Rachel, is still working in event planning at the San Diego Zoo. Her big news this year is that she got another puppy! Piper is a miniature Australian Labradoodle and the cutest little girl you'll ever see. At this writing she is four months old and weighs 7 pounds. Edward, Rachel's 11-year-old Maltipoo, loves to play with his new little sister. Rachel's big vacation this year was going to Nepal and Thailand with a friend. I love that all my children are adventuresome and want to explore the world.

My routines have stayed the same with my early morning elliptical workouts and Sunday morning

hikes. My diet is largely plant-based and fish. My free time is spent gardening, playing with our dogs and visiting family and friends, mostly in Los Angeles. I'm especially proud of this year's harvest from our garden, and happy to share the credit with the winter rain.

This past winter was a wonderful ski season, and I'm excited that Delta Airlines has returned to Santa Barbara since Utah is my favorite ski destination. The Delta flights will make the upcoming ski season much more accessible. In the Spring, I took a trip to Italy and England with my best friend from my medical training days in Boston. It was a great trip and worked out to be a good balance between my preference for visiting museums and his for shopping.

The younger generation of our extended family is gradually heading to the altar. We attended a family wedding this summer in LA and Betsy and I and the kids will all fly to Atlanta in October for another. (No big announcements from our own three in that department.) During the summer we also look forward to our kids' frequent visits home. Certainly one of the benefits of living in Santa Barbara.

On both a professional and personal level, I want to recognize my unbelievably fabulous staff. I don't think I've ever had a more dedicated, professional, knowledgeable, friendly and competent staff. It makes my office environment a pleasure to work in, and I am happy to be at work each and every day. This is yet another reason why I have no retirement plans and hope to practice for years to come.

Finally, I wish all of my patients a joyous and healthy holiday season. It is a privilege to provide your eye care and I am honored by the trust you place in me. I remain deeply committed to delivering the highest possible level of care and service for you. I sincerely appreciate your continuing confidence in me. 

## Highlights

The professional highlight of this year has been the continued integration of the Femtosecond laser into my cataract practice. With the advent of the Femtosecond laser (LenSx), premium Intra-Ocular Lenses (IOL's), Lenstar, ORA, and Verion in cataract surgery, the improved vision achievable through cataract surgery nearly duplicates the fantastic outcomes obtainable with LASIK. This has never before been possible. In fact, my practice patterns have changed because of the great results with laser-assisted refractive cataract



surgery so that there are now situations where cataract surgery is preferable to LASIK.

Lenstar is the machine I use prior to surgery to determine the appropriate power IOL that will replace your clouded, cataract lens. Lenstar uses optical laser light for the most precise measurement of the axial length of your eye, a key component in determining the IOL power. The Lenstar also measures the corneal curvature, anterior chamber depth (ACD), and corneal white-to-white (WTW) more accurately. With this improved data, the computer formulae can better predict the correct IOL power for your eye.

The LenSx laser creates surgical incisions and eliminates the use of scalpel blades and diamond surgical knives. The laser creates an idealized 2.4 mm (1/10 of an inch) incision that is dimensionally a 3-plane incision with a perfect 1500-micron cord length so the wound self-seals without sutures. It also creates a centered, perfectly round 5 mm capsulorrhesis (or opening of the lens capsule that holds the lens/cataract). No human can replicate this accuracy. By standardizing the potential variables in these two steps of your cataract surgery, LenSx greatly assists in the appropriate positioning of the IOL and thus the refractive outcome.

Additionally, if you have astigmatism, the Toric premium IOL can internally correct this irregularity. Astigmatism has an axis or angle, and the Toric IOL must be placed on the “steep” axis of your astigmatism. Before surgery, I measure your astigmatism with the Lenstar in the upright, sitting position, but I perform cataract surgery in the supine, lying position. When you go from upright to lying flat, your eyes “cyclotort” (or rotate), and each patient is a little bit different. I have technology called Verion that can compensate for this cyclotorsion. With Verion, I take a picture of your eye when you are sitting during the pre-operative exam. I carry this data/picture on a memory stick to the SB Surgery Center and retake your picture when you are lying under the LenSx laser and operating room microscope. Verion auto corrects for any cyclotorsion and shows me the corrected “steep” axis to implant the IOL. Verion presents an image in the eyepiece of the microscope that corresponds to this corrected steep axis so that I need only to line the Toric IOL with the projected image from Verion. Very accurate.

Another technology of which I make great use

is ORA. ORA is an aberrometer that is mounted on the under-side of the operating room microscope. Once your cataract is removed, ORA will reconfirm and double check the correct IOL power to be used. In some instances ORA can be more accurate than pre-operative measurements because it takes the measurement after the cataract is removed, and there is no potential obstruction caused by the cataract. Taken together, all this fabulous technology creates a powerful surgical tool. It has made my cataract patients and me very happy. ☺

## Guiding You Through the Process of Cataract Removal

It is often the case that my patients know they have cataracts for a while before we agree that it is time to schedule their surgery. I monitor the progression of the cataracts and wait until the effect on the patient’s vision is significant enough to impair his or her lifestyle. There can be any number of deficits that culminate in the decision, such as difficulty driving at night, glare and halos around lights, poor reading, or not being able to see the text on the TV. Once that point is reached, there are a number of decisions that must be made concerning the procedure. If you have cataracts and are anticipating surgery, I want to assure you that I will help you through this process and recommend the choices that are best suited to both your unique lifestyle and your financial requirements.

I have an interactive video program loaded on an office iPad for you to watch. After you have viewed the video, I will personally discuss and answer your questions. The broad outline of cataract surgery is that you only ever operate on one eye at a time and usually, if indicated, surgery on the second eye is performed about 2 weeks later. The surgery is NOT painful, it takes about 10-12 minutes, I do not patch the eye at the end of surgery, and you may return to normal activities (bending, lifting, and exercise) on the day after surgery. It is important to me that I understand each of my patient’s individual needs so that you will be happy with the outcome. I will recommend the choices that will ensure not only the best possible outcome but also provide a better, improved lifestyle for you. Informed patients are happy patients. ☺



## Premium IOL's

I always like to give an update on premium intra-ocular lenses (IOL's) in the newsletter. The ultimate goal for a replacement lens following cataract surgery is a "multifocal" IOL, meaning that it provides good distance vision, good vision at an intermediate (computer) distance, and lastly, good vision for reading, without any annoying side effects. Candidly, IOL technology has not yet achieved that goal—but there are products that are getting us closer. The FDA has designated these new, vastly improved multifocal IOL's as "extended depth of field" IOL's. This translates to good distance vision but also good intermediate/computer and reading vision. This extended depth of field category is the only type of multifocal IOL I am currently willing to implant.

Multifocal IOL's are "diffractive" lenses, meaning that there are rings of varying powers. The center optic is biased for increased clarity and quality of distance vision and the peripheral rings are for mid-distance and reading. Since diffractive lenses divide light, they are dependent on good light, especially for reading. Under normal, good lighting, reading is fine; but in a dimly lit restaurant, for example, a low power reading glass or the flashlight of your cell phone may be needed. After surgery, the distance vision is initially better than the reading vision because it generally takes about one month for the patient to adjust to the peripheral rings. For maximum benefit, both eyes should have the Multifocal IOL. Furthermore, for best result, your eyes should be free of any ocular pathology other than the cataract. As with all diffractive IOL's, the side effects will be some glare and halos around lights at night. The majority of patients report that over time, these side effects abate as your brain "neuro adapts" to the multifocal IOL.

Another premium lens that I often use and like very much is the Toric IOL, which corrects astigmatism. Astigmatism occurs at the corneal plane, whereas the Toric IOL can correct astigmatism internally. The Toric IOL qualitatively and quantitatively improves vision by eliminating astigmatism without the use of glasses, a result not otherwise attainable. Cataract surgery offers the surgeon a clean slate to correct existing refractive errors, and astigmatism is a significant component of that refractive error. I use the Toric IOL in combination with the LenSx laser, ORA, and Verion, which guides

me for the best placement of the IOL. Please see my description of this process under "Highlights." The end result is a happy patient and a happy doctor! 🌟

## Staff Notes

Every year I highlight a few members of my staff. This year, I'd like to tell you about my amazing bookkeeper, Rindi; Peggy, who moved to the East Coast and has now moved back to Santa Barbara; and Claudia Q. (as distinguished from Claudia W.), who is taking on more responsibility in our office.

Rindi has presided over most of the administrative facets of my medical practice for over 35 years. She joined my practice shortly after I arrived in Santa Barbara. Rindi is an invaluable asset and wears many hats. In addition to the avalanche of paperwork associated with billing and bookkeeping, she does all the paperwork for keeping current with my continuing education units (CEU's), reaffiliations for medical societies, hospitals, and honor organizations and stays abreast of new and continually changing insurance regulations. Most importantly, she is a trusted and loyal friend. Last year, Rindi made the momentous decision to retire so that she can pursue her writing and biking, and spend more time with her family. Amazingly, she gave me a full year's notice of her retirement and has used this time to train Charlotte and Claudia Q, who will be taking over her responsibilities. Thank you, thank you, thank you, Rindi! I don't want to say goodbye, so instead to Rindi I say, "Farewell!"

Peggy, as many of you remember, was my receptionist for 15 years before retiring and moving back to Rochester, NY to look after her parents. She has two daughters, one in California and one in Hawaii, and happily for our office, she has moved back to Santa Barbara. Before returning permanently, Peggy periodically filled in at the office over the past few years when other staff





## I Welcome New Patients

I welcome all new patients and value your kind referrals for their comprehensive ophthalmology needs. I do not limit my practice only to LASIK or surgical ophthalmology. I love my LASIK and cataract practice because patients are so pleased with their outcomes, but the heart and soul of my practice will always be taking care of patients with medical problems of the eye, and routine "well-patient" care to prevent those problems in the first place.

members have been out on vacation. She now acts as my surgical scheduler, sharing that job with Claudia W. It is a treat to have Peggy back. She brings many years of experience along with her positive, energetic get-it-done attitude. I am so glad to say, "Welcome back, Peggy!"

Claudia Q has been working for me for a few years. Many of you know her either from the special medical tests she performs in the office or from phone calls. I've known Claudia for a lot longer than she has worked for me, as she was originally a patient for whom I performed corneal transplant surgery. With Rindi retiring, Claudia will be assisting Charlotte in the back office. Claudia is self-motivated, a hard worker, and always looking to learn and take on new responsibilities and tasks.

I am very proud of my staff for their breadth of experience and expertise. Every staff member is cross-trained and can cheerfully shift job descriptions in a blink. But even more importantly, I'm most proud that they are kind, considerate, and sensitive individuals who provide a better experience for you, the patient.

## Optical Coherence Tomography (OCT)

I have discussed OCT in past newsletters, but because this is yet another technology that continues to improve and expand its use in clinical practice, I want to go over it again. Every three to five years I purchase an updated version of the OCT machine, as improvements offer full spectrum displays, higher definition and greater depth of field recordings. The value of this technology is that it allows me to "see" things that the human eye cannot see, much like ultrasound. Not only does it show me eye structures on a micron level, but it also records the structure's dimensions in microns. It is so good in fact, that it has

replaced more traditional examination methods that are not nearly as precise and accurate as an OCT scan.

In the office, the two most common uses of the OCT machine are retinal pathology and optic nerve pathology. The retina is a ten-layered structure with underlying support structures of retinal pigment epithelium (RPE) and choroid. Since the retina has a very high metabolic rate, the RPE and choroid serve as the vascular and nutritional supply for its functioning. The OCT scan shows all these layers and thus the etiology or source of any pathology.

Examples of conditions detected by the OCT are epiretinal membrane (ERM), "drusen", and macular degeneration. An ERM is a fine, transparent membrane that grows on top of the outer most layer of the retina. It is fairly common as we age and doesn't necessarily pose a problem. However, as membranes mature, they tend to contract and can cause inflammation and swelling. This can distort and blur your vision. Initially, the treatment is anti-inflammatory drops which are often helpful. There are times when more aggressive treatments are required, such as injections or surgery. The management of an ERM relies on a retinal/macular OCT scan. The retinal thickness, as measured by the OCT, determines the duration of therapy and its effectiveness.

Drusen are "bumps" under the innermost layer of the retina. They are yellow deposits of lipids and cellular debris. Drusen most likely do not cause age-related macular degeneration (AMD), but having drusen increases the risk of developing AMD. There are different kinds of drusen, often referred to as "soft" or "hard." Patients with soft drusen are more at risk for developing AMD. Drusen are visualized with the OCT, and can be accurately followed for progression or changes in their character.

AMD is something of a catch-all phrase that includes both "dry" and "wet" AMD. Wet AMD is defined by the presence of new or "neo" vascular vessels or membranes arising from the choroid under the retina, and occurs or progresses in about 5% of dry AMD. Dry AMD is much more varied or nuanced. The changes in dry AMD are degenerative or atrophic, remembering that the retina must rely on the underlying nutritional and vascular/oxygen supply of the choroid and RPE. A change in these structures will affect the overlying retina and thus your vision.

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The OCT can detect and track these changes.

The other most common use of OCT scans is for the detection and monitoring of glaucoma. Before the OCT was available, the evaluation of the optic nerve was performed by screening the nerve head for cupping. Although this is still of value, the OCT provides pertinent information concerning the thickness of the nerve fiber layer. A computer algorithm then compares your results with its data banks and maps the results. The technology is highly accurate as it evaluates your current condition and stability over time.

Another valuable application of this tool comes into play when I perform refractive cataract surgery with the Femtosecond laser. Certainly, the Femtosecond laser does the work that I've detailed before, but have you ever wondered what guides and directs the laser? It is the same OCT technology I use in my office. I program the laser to do its job by observing live OCT images of the cornea, anterior chamber, iris and lens. The OCT is accurate to microns in its measurements and displays. The OCT has a myriad of clinical and surgical uses and allows for much greater accuracy in diagnosis, management and treatment of diseases. ☺

## Fundus Photography

An ancillary test I perform frequently is fundus photography. This is yet another area that has benefitted from newer, better technology. The digital camera which photographs the fundus records 3 dimensional images of the back of your eye, specifically the retina, choroid and optic nerve. The camera is linked to our office computers.

There are many conditions that affect the optic nerve and retina, including therapy drug toxicities, inflammations, degenerations, vascular anomalies or infections. Fundus photography creates stereo disc photos that allow a greater, magnified view of the health and vascular tree of the optic nerve. The optic nerve is part of our central nervous system, and nerve damage at this level cannot regenerate or be repaired. My job, then, is to try and prevent optic nerve damage, which is most commonly seen in glaucoma or optic neuropathy. Many of you have heard me talk to you about "cupping" which refers to the anatomical configuration of your optic nerve. There are many variables that can affect your "cup," and many can be

physiological rather than disease related. The stereo disc photos I obtain with the fundus camera are a huge help in determining whether the process is benign or not, especially when viewed over time. I typically do photography once a year at the time you are dilated, although this new technology can obtain beautiful photographs in an undilated pupil.

The value of this technology is that it provides a more accurate and permanent record of any pathology or changes in your posterior pole. For those patients with diabetes, fundus photography is the best way to document the impact of diabetes on your eye health. I send a report to your designated physician updating the status of any diabetic retinopathy.

For patients with macular degeneration, fundus photography not only documents changes, but allows me to follow the disease with greater detail. My own observations on physical exam provide important information which is recorded in your chart, but it is equally important to have the photographs to compare from one year to the next.

Another condition for which fundus photography is helpful is called choroidal nevus. A nevus is a birthmark or a "freckle" in the back of the eye. In Caucasians, those freckles can turn into malignant melanomas. Fundus photography allows me to monitor any early changes from a benign process into a malignant one.

Evaluating the optic nerve with fundus photography is also an important part of glaucoma care, as glaucoma involves not only an increase in your intra-ocular pressure (IOP) but also damage to the optic nerve. We can also look for optic nerve damage by performing visual fields (which I discussed in last year's newsletter) and by optic nerve OCT (which I discuss in a separate article this year). These three technologies together are powerful tools in glaucoma management. ☺

## Social Media

Many new patients find their way to my office via social media. We have always encouraged our LASIK patients to post about their experiences on Yelp or Facebook, but with the rapidly changing ways in which we all make use of the Internet, even more new avenues for finding professional referrals are augmenting the old tried and true method of asking for advice from relatives and friends. So we now urge all of our patients who use social media to post comments about their eye care



online, whether they have come to see me for LASIK, cataracts, a unique problem or even well patient care. Of course, we should all evaluate online reviews critically, but Yelp and Facebook are frequently the first source for referrals, whether one is looking for a restaurant, a general contractor, or a doctor! Thank you for taking the time to post. I sincerely appreciate your trust in me whether you recommend me to a family member or friend, or post a review online. ☺

## Prescription Medicines

At each office visit, patients are asked for a list of medications they are currently taking. This information is important because certain drugs interact with each other in ways that can be harmful, and some drugs can be toxic under certain circumstances. It is also helpful for me to see what medications you are taking as it reflects on the status of your general health. Fortunately, the eye drops I prescribe usually pose a small risk for significant side effects or drug interactions. On the other hand, there are some drugs taken by mouth that do have ocular toxicities. Finally, providing a list of patient medications is part of our mandated quality assurance reporting. So it is a good idea to carry a list of your current medications with you at all times, and certainly for all doctor appointments. Thank you.

On a somewhat related note, the insurance and pharmaceutical industries continue to have a significant influence on the ways in which doctors practice medicine. In the past, this influence was somewhat inconsequential; now, it is a fact of life that doctors must contend with every day. As an example, in the past when I wrote a prescription, it was filled as written with my directions by the pharmacist. Not so much anymore! Now the insurance industry, through their medical managers and middlemen, dictate which medicines you receive. I try, whenever possible, to write prescriptions for generic drugs but the substitutions due to insurance company "formularies" is excessive. Too often industry profit is in direct conflict with your best care and outcome.

Of course, the issue of prescription medicine costs goes both ways, as the pharmaceutical industry has been outrageous in their pricing of "branded" or new medicines. Even many of the generic drugs cost ridiculous amounts. Generic drugs that I've used my entire career have gone from \$5.00 per bottle to over \$100.00 per bottle. A common ploy I've seen over and

over is where a drug is in short supply nationwide due to a "manufacturing glitch", only to reappear at many multiples of its original cost. There is not adequate oversight of or penalties for these companies.

Even more concerning is that sometimes I am not consulted regarding the substitutions made at the pharmacy. I do not place the blame on the pharmacists; they are under tremendous pressure. But I've found that the pharmacy chains, such as CVS, will not carry or order common medicines I prescribe, and my only conclusion is that if their profit margin is not great enough, it is "off the shelf."

This system is in a downward spiral, and I can only conclude that is the result of the current corporate culture which dictates that the company's sole responsibility is to its shareholders. I want to shed light on this issue so that we can all be more politically aware. I do try whenever possible to get "pre-authorization" for prescriptions, but I'm increasingly finding that the different insurance plans' formularies do not allow even this. This part of medical practice is a struggle.

## We Invite you to Visit Our Website

I encourage all my patients to visit my website: [www.seewinthrop.com](http://www.seewinthrop.com). It is constantly updated with new information and is formatted so that the content seamlessly adjusts to whatever device you are using. You will find answers to many of your questions about general eye anatomy, diseases of the eye, or a surgical procedure you may be contemplating. There are video clips and this year's newsletter as well. You can also check out my academic credentials and training history, download registration forms, get directions, or determine our office hours.

Whether you are a new or existing patient, visiting the website before an appointment will shorten your check-in time upon arrival. Since registration forms and insurance information need to be updated on a yearly basis, I highly recommend that you download these forms from the website and fill them out prior to your visit. We now have Medicare forms online too. If you come to your appointment armed with these completed forms, together with a list of all medications you are currently taking, you can make a big contribution toward minimizing your "wait" time. Thank you.

