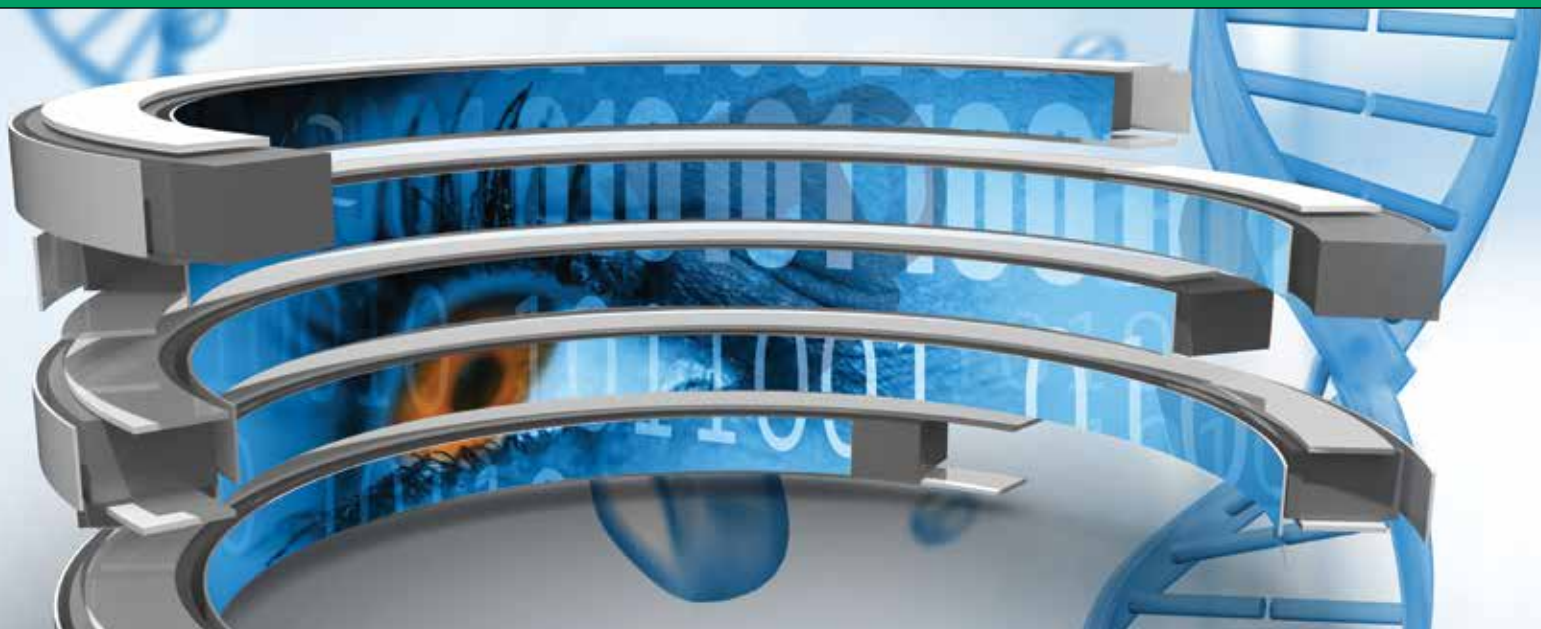


CALIFORNIA OPTOMETRY

MAY / JUNE 2014

VOLUME 41, NUMBER 3

A comprehensive view of professional optometry in California today



OPTOMETRY IN FOCUS

Contact lens-related limbal stem cell deficiency

GOVERNMENT AFFAIRS

CMS proposes review of provider networks

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A comprehensive view of professional optometry in California today.

Executive Director

Bill Howe

Editor-In-Chief

Julie A. Schornack, OD, MEd, FAAO

Managing Editor

Rachael Van Cleave

Editorial Board

Lee Dodge, OD

Michael Mayer, OD

Anne Mika Moy, OD, FAAO

Jasmine Yumori, OD, FAAO

Palmer Lee, OD

Cindy Wang, OD, FAAO

Ellin Wu, OD

Meredith Whiteside, OD, FAAO

Production and Design

Grace Design Studio

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John Rosten, OD
President

Leading the charge



It's with a real sense of humility, gratitude and excitement that I'm off to my start as president of our California Optometric Association. For it is with much humility that I think of the privilege and responsibility of holding this office, with much gratitude for our membership and the many leaders who have gone before us, and with much excitement as I look to the future of our profession.

Leadership is often referred to as a relay race, with one leader handing off the baton to the next. The baton I've been given by Dr. Fred Dubick, our immediate past president, was firmly placed and I am ready to run. Dr. Dubick has led our association with excellence, with passion for our profession and a great commitment to our association. Thank you, Dr. Dubick!

Leadership Corner

I'm also very pleased and excited about our upcoming leaders. I am so very impressed and thankful for each of our COA board members who have served together well and have consistently moved our profession forward.

I've had wonderful opportunities this past year to have personal contact and interaction with so many of our members. It is truly our membership that makes everything possible - without our members, we would not exist! Each of your efforts to invite a non-member to a local society meeting, or to have lunch with a non-member colleague, have been so valuable. Our COA Membership Committee has greatly increased our membership recruitment activities and we have seen results! Our COA staff Membership Development Manager, Jodi Haas, has been exceptional in this area and is a wonderful resource for each of us in our efforts.

Optometry in California is a legislated profession and we must never let down our guard. While the state Legislature is in session, we live or die as a profession by the decisions that are made "under the dome." We must always be vigilant and be actively involved to protect our profession and our patients.

Some of my most satisfying experiences as a COA leader have been meeting with our legislators, helping to educate and inform them of our position on various issues. I remember very well, not so long ago, how I made that first trip to Sacramento for our COA Legislative Day, and how it all seemed so mysterious. As we walked into our legislator's office, there was nervousness on my part and a great appreciation for those with me who had done this before. Upon my return a year later, it was now with great comfort and excitement as I again entered their legislative homes to continue to educate and inform. My confidence had increased and I understood that I was meeting with a friend who was really not that much different from myself. I encourage you to get started!

If you are unable to attend COA Legislative Day in Sacramento on May 13, there are still plenty of ways you can be involved with the legislative effort for optometry. Contact our staff in Sacramento to learn how! Our focus will be on our efforts to move ahead with Senate Bill 492, which will redefine our profession and expand our treatment options and procedures. For the purpose of this legislation, many of you attended our COA Local Legislative Days by meeting with your legislator and their staff in their district offices. Thank you! It is truly your involvement and the power of our grassroots efforts that allows us to move forward.

Thanks so much for this opportunity to serve you and our profession. You are the important ones; as members, you make it happen! I'm very much looking forward to working with each and every one of you as we continue to move ahead during this next year.

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COA Board Highlights

COA Board of Trustees meeting highlights

On **January 6, 2014**, the COA Board of Trustees (BOT) met at the COA Office in Sacramento. The BOT discussed a number of issues and topics that included the following items and approved motions:

- **Motion:** To confirm approval of: **1)** COA White Paper on Children's Vision Relative to SB 430 and **2)** the 2015-2020 COA House of Delegates (HOD) dates, locations and hotels.
- **Motion:** To approve a policy resolution that provided for a monthly stipend for select COA volunteers which was revised to carry into 2014.
- **Motion:** To accept the November 2013 year-to-date COA financial statements as presented.
- **Motion:** To accept the recommendation of the COA Sponsored Services Committee that COA enter into a renewed agreement with Mercer Health & Benefits to broker all lines of COA-sponsored insurance products with the exception of personal lines of insurance, directing COA staff to enter into an agreement with Warren G. Bender Company to broker those products beginning March, 2014.
- **Motion:** To discontinue the print copy of *California Optometry* magazine and substitute it with a digital publication not later than January, 2015.
- **Motion:** To forward the proposed COA Student Section bylaws as presented to the 2014 COA HOD with the recommendation to approve.
- **Motion:** To forward the proposed COA Articles of Incorporation and COA bylaw amendments, relating to COA BOT composition and the COA secretary-treasurer term of office, as amended, to the 2014 COA HOD with the recommendation to approve.
- **Motion:** To approve the proposed policy "COA Officer and Trustee Participation in COA-Conducted Raffles and Other Like Activities," which would make stated persons ineligible to receive prizes, as presented.
- **Motion:** To authorize the COA Low Vision Rehabilitation Section to enter into an agreement with Optelec for the provision of a professional starter kit for winners of low vision rehabilitation essay contests by third year students at California schools and colleges of optometry.

The COA BOT met **February 18, 2014**, at the COA office in Sacramento, as well as **April 3 and April 6, 2014**, in conjunction with the joint COA House of Delegates meeting and OptoWest in Indian Wells. Minutes from those meetings are pending approval by the BOT and will be released in the next edition of *California Optometry*. The next meeting is **June 5, 2014**, in Sacramento.

MISSION STATEMENT

The mission of the California Optometric Association is to assure quality health care for the public by advancing all modes of optometry and by providing members with the resources and support to practice at the highest levels of ethics and professionalism.



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Editor's Note

We have been through an interesting time of reflection at the university. In the last few months, we have participated in a careful review of our medical records in the University Eye Centers at Fullerton and Los Angeles, we have gone through a site visit by the Accreditation Council of Optometric Education (ACOE) for the optometry program, we have done mid-year reviews on our employees, we have ongoing patient satisfaction survey results that we examine and as an administrator at the university, I am going through a 360-degree review addressing my strengths and areas of concern as viewed by my peers and employees. None of these experiences are easy to navigate through. No matter how good your records, employees, patient care, customer service or personal management style are, someone, somewhere, will be willing to weigh in and point out where you need to improve and make things better. You have to mentally prepare yourself to initiate these efforts because the results are often not for the faint hearted.

However, after being at the receiving end of most these initiatives (the 360-degree review is not complete at this time), I can say that the value that they provide is limitless. An external review of your operations allows a view through unbiased eyes and illuminates the shady and dark corners that you may have overlooked intentionally or unintentionally. It brings perspectives concerning your patient care operation from a variety of vantage points and allows you to examine those different perspectives. Sometimes you will not agree with the findings, but it is important to remember that if one person holds that perspective, others may as well.



... I am going through a 360-degree review addressing my strengths and areas of concern as viewed by my peers and employees.

I am reminded of a proven adage about providing feedback to students that applies to this idea. Our optometry students always claim that what they want more in clinical education is more feedback. We find that they want more feedback until they get it and then they don't want it anymore. The unspoken message is what they want is feedback that highlights their strengths and does not focus on the areas that require improvement. I understand that perspective. No one wants to get beat up every time you get feedback. Our human resources vice president is a big supporter of delivering feedback via the "sandwich method." This refers to starting feedback with a positive element, then the placement of an area of concern in the middle, topped off with another positive observation to complete the feedback sandwich. I am not sure those that you ask for feedback will be as sensitive as this. Be prepared.

At the end of the day, I am here to advocate that you pointedly ask for feedback from your constituents. Ask your employees, ask your vendors, and most of all, ask your patients how you are doing. Place yourself in the right frame of mind to constructively receive the feedback. You will hear things that you are overjoyed to hear and things that will rock you back on your heels. Hopefully, the feedback will cause reflection, growth and improvement for you personally and for your practice.



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Eye Openers

AOA responds to online eye tests

You may have seen articles in the ophthalmic press about a company offering online eye “exams.” AOA has recently released a statement to alert consumers about misleading information in claims about “online eye tests.” The statement warns that these “tests” put the patient at significant risk of misdiagnosis and improper treatment for potentially life-threatening diseases.

“The claims of those who market online eye testing should be thoroughly scrutinized and evaluated as to how they may harm patients and hinder care needed to diagnose important underlying, and often asymptomatic, health problems. Every day, in patients seen for “routine” asymptomatic eye examinations, doctors of optometry diagnose and manage diabetes, hypertension, glaucoma, macular degeneration and cataracts. Any delay in intervention will result in progressive damage to vision, and more costly and intensive treatments later in life.”

You can access the full statement here:
<http://goo.gl/90oLgx>.



The Eye Openers section gives a quick look at the latest headlines and news surrounding optometry and eye care.

ICD-10 conversion mandate delayed

The October 2014 deadline to transition from ICD-9 codes to ICD-10 has been pushed back one year by Congress to October 2015. The delay was part of legislation signed recently by President Barack Obama that halted an impending massive Medicare pay cut for doctors of optometry and other physicians. At this writing it is unclear if CMS will allow providers who have spent money preparing for a 2014 change to make the switch to ICD-10 voluntarily. AOA and COA will keep members apprised of developments.

Regardless of the delay, doctors and their staff need to prepare for the inevitable transition to ICD-10. Better to start now than to wait. To help member doctors of optometry and their staff prepare for this transition, the below resources are available:

- AOA has a members-only summary, <http://goo.gl/2q4fmY> (member login required), of the growing list of ICD-10 and other coding resources. Many of the coding resources are complimentary or included with an AOA membership, though other products are available for purchase through the AOA Marketplace, <http://goo.gl/Bf9anP>, with substantial member discounts. Members are encouraged to check the medical records and coding page on the AOA website regularly for updates.
- Use the AOA “Ask the Coding Experts” e-service for medical records and coding questions; send your question by email at askthecodingexperts@aoa.org or submit it on the online form and a coding expert will respond.
- CMS recently released a *MLN Matters*® Special Edition article, “Testing for ICD-10,” which you can find on their website. Among other things, in the article is a useful section titled “Provider-Initiated Beta Testing Tools” that contains links to a variety of free testing tools available to determine the readiness of your software system for ICD-10.
- Visit the CMS ICD-10 website for the latest news and resources at www.cms.gov/Medicare/Coding/ICD10/index.html?redirect=/icd10.

Return on Dues Investment. Use of these resources by doctors and their staff members returns multiple dividends on your annual dues investment by saving time researching answers, avoiding costly coding missteps and obtaining receipt of proper reimbursement.

New diabetes guideline supports ODs' care decisions

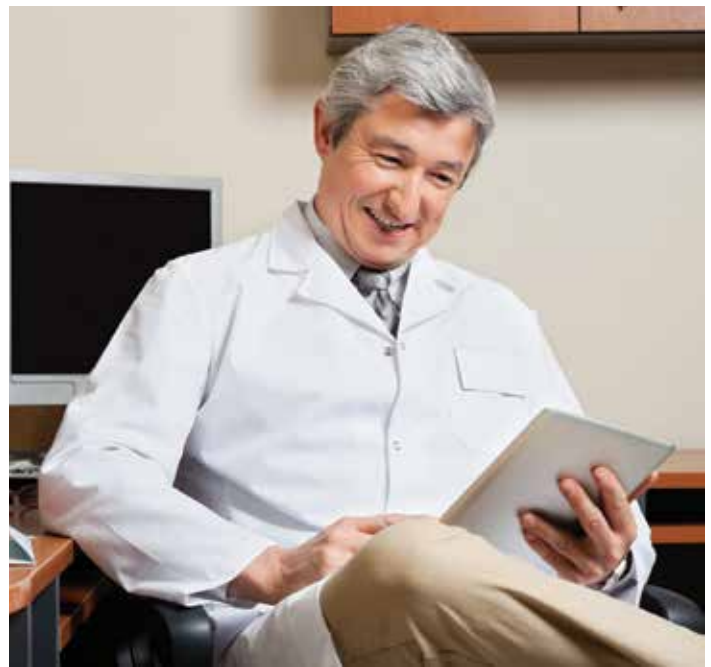
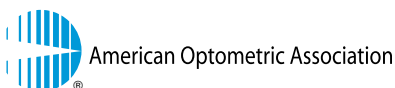
Doctors of optometry can tell a great deal about someone's health, especially when it comes to diabetes, according to a recent American Optometric Association (AOA) press release. That's why AOA is happy to announce the release of its first evidence-based clinical practice guideline for patients with diabetes.

In the announcement, AOA states that as many as 40 percent of the nation's 27 million people with diabetes are unaware of their condition, and many times ODs are the first practitioners to detect the tell-tale signs of the disease.

The guideline, "Eye Care of the Patient with Diabetes Mellitus," offers evidence-based guidance to assist in patient care decisions. The guideline came together after two and a half years of research and cites more than 230 academic articles.

AOA's Evidence-Based Optometry Committee created the document in hopes it would become a model of care among doctors and other practitioners involved on the patient's diabetes care team.

Visit AOA's website to find out how the diabetes guideline can aid in the detection and routine screening of people with diabetes.



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Why should you connect with COA? Because we are the source for everything optometry-related in the State of California! We have informational and entertaining videos, tweets, posts and more!



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CVF SPOTLIGHT Get involved!

California Vision Foundation, COA's charitable foundation, needs your help. If you would like to become involved in the California Vision Project and provide free eye exams to eligible low-income families, or contribute financially to the Foundation, please contact Amanda Winans, California Vision Foundation administrator, at 800-877-5738 and choose option six, via email at awinans@coavision.org, or mail checks payable to the "California Vision Foundation," 2415 K Street, Sacramento, CA 95816. To find out more, visit our website at californiavision.org.



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Membership Matters



Jodi Haas,
Membership
Development
Manager

What can COA and AOA do for me?

At the most basic level, your membership is about ensuring your ability to practice optometry. You have made a significant financial investment in making optometry your profession and livelihood, and the one most valuable benefit of membership — regardless of your mode of practice — is the ongoing effort to protect your license to practice and advocacy for your ability to practice to the full extent of your education and training.

Because optometry is a legislated profession, many issues at the federal and state level can potentially affect how, when, where and what you practice. The profession you have chosen was not always this way. Through the efforts of organized optometrists just like you, doctors of optometry have gained the right to dilate their patients' eyes, treat many ocular disease conditions and treat patients with Medicare insurance. All of these expansions of the optometric profession happened because individual optometrists were members of COA and AOA and were willing to give their time and effort to see their profession grow. Unfortunately, these laws can change at any moment. New laws can benefit optometry — such as the ability to treat glaucoma — or new laws may limit or take away some of your practice rights and the ways you make a living. Therefore, the work is never done.



COA is a conduit of information on all things pertaining to the profession of optometry...

Beyond protecting and expanding your profession, membership offers many additional benefits, services and resources to the practicing optometrist. COA is a conduit of information on all things pertaining to the profession of optometry, distributed through its website, e-newsletters, social media and the award-winning *California Optometry* magazine — so that you know what's going on with optometric issues. COA also offers cutting-edge continuing education to its members through the premier West Coast conference, Monterey Symposium, regional conferences and local society education programs.

As a member of COA, AOA and your local society, you are entitled to many resources and benefits:

- **Three memberships in one.** Tripartite membership providing you with local, state and national representation and resources to grow your practice.
- **Protecting and promoting your profession.** Legislative and regulatory advocacy at the state and national levels dedicated to maximizing patient access and advancing scope of practice.
- **Resources to grow your practice.**
 - **COA:** Online "Find An Eye Doc" locator service, online resources and expert assistance on all facets of the business and practice of optometry through COA Member Resource Center, practice fact sheets, COA Member Media Center.
 - **AOA:** Online "Doctor Locator Search" directory, business and career success webinars, customizable kits for practice promotion, practice-branded marketing materials, patient education materials.
- **Information on your association and the optometric profession.**
 - **COA:** *California Optometry* magazine, *e-COA Member News* and *e-Government Affairs Weekly*, local society meetings; optional membership in Low Vision Rehabilitation Section.

- **AOA:** AOA Focus magazine, e-AOA Focus newsletter, daily e-AOA First Look; optional membership in Contact Lens & Cornea, Sports Vision and Vision Rehabilitation sections; AOACoconnect online OD Q&A community, online resources for coding and documentation questions.
- **Cutting-edge knowledge and skills.**
 - **COA:** Member-only registration discounts for COA and local society education seminars and conferences.
 - **AOA:** Member-only registration discounts for AOA education seminars and annual Optometry's Meeting®; 24/7 access to EyeLearn™ online learning resource.

Visit the COA website, www.coavision.org, for a full listing of all member benefits, services and resources. For a full listing of AOA membership benefits and services, visit the AOA website at www.aoa.org and AOAExcel at www.excelod.com.

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Sacramento Valley Optometric Society
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Brian Tracy

San Diego County Optometric Society
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David Park

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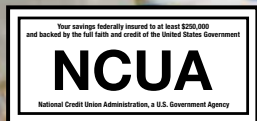
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Rachael Van Cleave,
Communications
& Social Media
Manager

Technology and your practice

The growing world of social media — Vine



In the ongoing series of articles included in *California Optometry* addressing the fascinating world of technology, this column addresses a video-centric platform/application (app) called Vine. It has only been around for a year, basically in its infancy, but has skyrocketed in popularity with companies as well as the public. In fact, Vine grew 403 percent between the first and third quarters of 2013, according to statistic gathering sites Mashable, Statista and GlobalWebIndex. The following addresses the platform's strengths and weaknesses as well as some quick facts, including the demographics, benefits and business uses.

What is Vine?

- Vine is a social media platform owned by Twitter that features short looping videos called "vines" that have a maximum length of six seconds.
- Vine is solely a mobile app, used on smart phones and tablets.
- You can share these videos with other app users as well as other platforms like Facebook and Twitter.
- Vine offers an "explore" tab where you can see videos by categories like "comedy," "art" or "science & technology."
- There is an "activity" tab (not unlike your Facebook feed) that shows who follows you, who "likes" your video and who has commented on it.

What makes Vine different?

Whereas Facebook is about chatting with friends, family and businesses, and Twitter is where you get your short bits of world news, Vine is where you can creatively post educational or entertaining video tidbits of personal or promotional content.

Who's on Vine?

- According to neomobile.com, Vine has more than 40 million users.
- According to GlobalWebIndex, 3 percent of mobile Internet users use Vine (that's compared to 45 percent who use Facebook).
- According to bikeleague.org, there is little demographic data on Vine, however, early statistics seem to be leaning toward a female base with a young average age of 20.

Should I use Vine for my practice?

Here are some facts for you to consider:

- Vine is still new and doesn't yet have some features that other platforms have.
 - ♦ Vine can't import Facebook contacts, so you can't connect with your Facebook friends who are already using Vine. You have to find them for yourself.

- According to socialmediaexaminer.com, you can use Vine to entertain, educate and inform your audience as well as use it for contests.
 - ♦ A practice could create videos about eye care tips for patients or potential patients.
- The site also suggests encouraging your customers to create vines for your brand.
 - ♦ A practice could encourage customers to do short testimonials.
- Vine is a mobile-only app, so those without smart phones won't be using it, which will typically include older demographics.
 - ♦ If your practice is targeting younger patients, this could be a good platform to use.



Vine is where you can creatively post educational or entertaining video tidbits of personal or promotional content.

How to use Vine for your practice

A social media analyst in an About.com article about Vine warns that the app is still new and will probably change and mature over time. It might be worth waiting a bit to see how it changes and if it will have a longer shelf life than a couple of years.

We will provide you with more stats on some other growing social media platforms in upcoming editions of *California Optometry* magazine. Then you can decide if it will work for your business plan.



COA'S Communications & Social Media Manager Rachael Van Cleave (right) with husband and sister-in-law at Pinterest headquarters.

In the last edition of *California Optometry* this column reviewed Pinterest as a potential social media platform for your practice. **Update:** In February, the author, R. Van Cleave, visited Pinterest headquarters. During the tour, an employee reported that Pinterest expects to nearly double their staff by 2015. This is a platform to take seriously! (Note: this is not an endorsement by the article author or COA.)



Lego wall within Pinterest headquarters for staff to express creative ideas.



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The latest news for optometry-related legislative and advocacy issues in California.

Government Affairs

CMS proposes review of provider networks in federal exchange

Health plans offered through the federal exchange may need to expand their provider networks starting in 2015. The Centers for Medicare and Medicaid Services (CMS) recently notified health plans that if they intend to participate on the federal exchange in 2015, CMS will begin reviewing in-network provider lists prospectively to ensure that there is “reasonable access” to health care. CMS will be focusing on areas where there have been access problems in the past, including hospital systems, mental health providers, oncology providers and primary care providers. CMS also announced it is considering a requirement for federally qualified health plans to include more federally funded

health clinics, safety-net hospitals and other medical providers used by low-income people.

This proposed policy change is in response to provider complaints that they are being left out of the new, narrow provider networks — California regulators need to hear from doctors of optometry and their patients too! If you are being excluded from a provider network offering coverage within Covered California, California’s health insurance exchange, please contact Kara Corches at kcorches@coavision.org. She can help you and/or your patient file a complaint with the appropriate regulatory agency.

Legislation update

COA has identified several bills that are moving through the Legislature that impact doctors of optometry and the care they provide patients. Here are COA’s Legislation-Regulation Committee’s official positions on these key bills:

AB 1805 by Assembly Member Nancy Skinner would reverse a 10 percent cut to reimbursements to health care providers who treat Medi-Cal patients.

COA position: Support.

AB 2015 by Assembly Member Ed Chau would prohibit a health plan from discriminating against any health care provider who is acting within the scope of that provider’s license.

COA position: Support.

AB 2400 by Assembly Member Sebastian Ridley-Thomas would prohibit a health plan from requiring a physician to participate in any product that provides different rates, methods of payment or lines of business unless negotiated and agreed to by the physician.

COA position: Support if amended to apply to all health care providers.

AB 2418 by Assembly Member Susan Bonilla would allow patients who run out of prescription eye medications due to accidental spillage or who use more than 70 percent of their eye drops to be eligible for an early refill.

COA position: Support.

Glaucoma certification

COA strongly recommends that all doctors of optometry complete the glaucoma certification requirements as soon as possible. Although it's not required by major health plans now, COA is aware of provider networks that are currently being formed that require participating doctors to be glaucoma certified. Health care is changing rapidly and doctors should start the certification process now to take advantage of opportunities that can develop quickly.

To become glaucoma certified, there are **four basic requirements**:

- The doctor must have an active license in good standing with the State Board of Optometry (SBO).
- The doctor must be TPA certified.
- The doctor must take the 24-hour didactic course in the treatment and management of glaucoma. Licensees who graduated after May 1, 2000, are exempt from the didactic course. If you have already completed the didactic course, you are not required to retake it.
- The doctor must prospectively treat 25 individual patients for a minimum of 12 consecutive months. There are three options to obtain the 25-patient requirement:
 - 1) A 16-hour Case Management Course
 - 2) Grand Rounds Program
 - 3) Preceptorship Program

Glaucoma Certification Courses

- The 24-hour didactic online course is available at UC Berkeley (required for those graduating prior to 2000).
- The 16-hour Glaucoma Case Management Course (15 patient credits toward 25 patient requirement) is available online at UC Berkeley.
- May 4 - 5 — Glaucoma Grand Rounds (15 patient credits toward 25 patient requirement) at Ketchum University.
- May 30 - 31 — Glaucoma Grand Rounds (15 patient credits toward 25 patient requirement) at UC Berkeley.
- August 14 - 15 — Glaucoma Grand Rounds (15 patient credits toward 25 patient requirement) at UC Berkeley.

Here is a link to the form you need to fill out with SBO: <http://goo.gl/zp31J3>.

VSP sponsors legislation to allow supplemental adult vision through Covered California

VSP has sponsored Assembly Bill 1877 introduced by Assembly Member Ken Cooley, D-Rancho Cordova, which would provide a mechanism for stand-alone vision plans to offer supplemental adult vision care benefits in conjunction with the Covered California purchasing experience, by:

1. Establishing a separate state council overseen by a governing board with the job of creating a state marketplace to give California consumers the opportunity to choose vision care coverage in addition to their other health care choices by linking with the state Exchange.
2. The new Vision Care Access Council would be funded entirely voluntarily by participating California vision health care plans. Operations would only get underway when a

minimum funding threshold has been provided by those plans which intend to participate.

3. Participating carriers would be required to meet a minimum net asset threshold, have and continuously maintain an established website, be able to demonstrate adequate vision care coverage networks sufficient to ensure convenient geographic access to vision care in California and meet the needs of California's diverse populations.

COA has historically supported the inclusion of stand-alone vision plans in Covered California and is in the process of analyzing this bill language and its impact on optometry in California. If you have any comments, please contact Kristine Shultz, COA director of governmental and external affairs, at kshultz@coavision.org.

Stay connected to
government affairs!

For weekly information on COA's government and external affairs activities, watch your e-mail inbox each Wednesday for the *Government Affairs Weekly Update*. Archives are available on COA's website (in the Members Only section, click Government Affairs, then Weekly Updates).



Kara Corches,
Grassroots and
Fundraising Manager

Local Legislative Days Review

Local Legislative Days 2014 was a huge success by all measures. COA hosted its inaugural Local Legislative Days in July 2013 with 100 participants. That number was exceeded with 150 doctors and students participating in Local Legislative Days 2014, increasing turnout by 50 percent from the previous year!

Teams of doctors and students visited with 60 legislators and legislative staff members, from both the Assembly and Senate, in district offices across the state. The Local Legislative Days participants had the opportunity to take part in a webinar before their meeting to review talking points with COA leaders, lobbyists and staff. Doctors and students lobbied their lawmakers in support of SB 492.

Students from SCCO, WesternU and UC Berkeley participated in this event. COA hosted meetings at all three optometry college campuses before Local Legislative Days to review bill specifics and talking points with students and faculty.

Thank you to all who took part in Local Legislative Days, making this event a huge success! You educated the state lawmakers and their staff on SB 492 and made a difference for the optometric profession! These efforts make COA's grassroots efforts successful, and you, our Key Persons, truly effective.



Senate Republican Leader Bob Huff (center) with Dr. Dobies and students at a Local Legislative Days meeting in Brea.



(L-R) Dr. Greg Hom, Dr. Phil Smith, Assembly Speaker-Elect Toni Atkins, and SCCO student Samuel Levin pictured at a Local Legislative Days meeting in San Diego.



Senator Jean Fuller (center) pictured with Dr. Ranjeet Bajwa (left) and Dr. Joseph Figazolo at a meeting in Bakersfield.



Assembly Member Brian Jones (left) pictured with Dr. Robert Meisel at a Local Legislative Days meeting in Santee.



Assembly Member Nancy Skinner (center) pictured with Dr. Page Yarwood (right) and students at a meeting in Oakland.

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Are there gaps in your professional liability coverage?

While many employers provide Professional Liability coverage for their employees, chances are that coverage may have some serious gaps, including:

- Policy limits may not be high enough to protect you and all your co-workers.
- You may not be provided with coverage for lost wage reimbursement, licensing board hearing reimbursement and defense costs.
- You may not be covered outside of the workplace, such as when you engage in volunteer or part-time work.
- You may not be covered for suits filed after you have terminated your employment.

Patients count on you for expert advice and professional services. But no matter how well-trained or careful you or your employees are, mistakes can and do happen — sometimes resulting in a lawsuit.

Professional Liability Insurance protects you against claims arising from real or alleged errors or omissions, negligence, breach of duty and misleading statements in the course of conducting your professional duties.

Most professional liability policies provide coverage limits of up to \$2,000,000 per incident and up to a maximum of \$4,000,000 in aggregate in any policy year. Many policies also include legal fees and court costs paid for covered claims, lost wages if you are required to appear in court due to a claim filed against you and your performance of services as a member of a professional board or organization.

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Six Steps for understanding card processing statements

Today, most businesses accept electronic forms of payments (credit/debit cards) to offer added convenience for their customers and to boost profits by taking in more income. However, when it comes to the cost of credit and debit card transactions, many business owners are often confused about what they are actually paying for.

As you examine your statements, keep these guidelines in mind:

- 1. What types of cards are being used?** Many processors list Visa or MasterCard in the card type column, designating the card company but not the card type. Visa, MasterCard and their bank issuers offer literally hundreds of different card types with varying interchange fee rates. Interchange fees also vary according to time to settlement, type of business/organization, type of transaction (online versus swiped, etc.), and many other variables. By not identifying the card type, many processors charge you more for transactions that actually cost them less. Also, debit card transactions, for example, usually cost less to process than credit card transactions. Without the identification of card type, it is hard to decipher exact costs.
- 2. "Total card fees" don't represent your total costs.** Don't rely only on the "total card fees" line item to determine your total cost. If your statement lists this amount, you will have to do a little math to find out the total you are really paying. Add the "less discount paid" (the fee you pay your processor) to the "total card fees" (the interchange you pay) to arrive at your real bottom-line costs.
- 3. "Discount rates" are misleading.** "Discount rate" is an industry-accepted term for the fee your processor charges. However, many processors quote you a low "in-the-door" discount rate without disclosing that most transactions do not qualify for it. Look at your statement carefully and you will likely see many transactions charged at much higher rates.
- 4. Beware of bill-backs and other surcharges.** Many processors hide arbitrary fees, often classified as "bill-backs" and "surcharges," without disclosing them to you. They charge a low discount rate on all your transactions, and then add extra surcharges to them. Some are billed the month the transaction occurs and others the following month making reconciling charges and figuring out your total monthly costs even more difficult.
- 5. Take note of additional fees.** There may be even more fees — from PCI security and per-transaction fees to batching, authorization, annual charges and more. Understand what they are and why you're paying for them. It's possible some are just randomly included and bring you no value.
- 6. Don't do it alone.** Reviewing monthly statements can be overwhelming. Until you know what to look for and how to find "red flags" indicating hidden fees, consider contacting your payments processor to help you navigate your statement. Or consider having your accountant or even another processor take a look. At no cost to you, some competitor processors will walk you through your statement to help uncover hidden fees and show you where you can save money.

By learning the facts about payments processing practices and the right questions to ask, you can ensure you are eliminating hidden fees and reducing your out-of-pocket expense on every transaction — and put these savings toward more important things ... like operating your business.

To learn more about how to protect your business from deceptive pricing practices, go to HeartlandPaymentSystems.com.

Note: Heartland Payment Systems provides exclusively to COA members secure, cost-effective credit card processing and payroll service solutions at a member-only discount. Contact Dana LeBlanc of Heartland today at 916-599-8689 or visit the COA page at <http://www.heartlandpaymentsystems.com/Associations/California-Optometric-Association/Home>.





All Eyes on You

COA Optometrist of the Year

COA is proud to recognize Tommy Lim, OD, as COA's 2014 Optometrist of the Year. Dr. Lim is an exemplary leader, contributing to the welfare of the public, his local community and being an advocate for optometry in California and the nation.

Dr. Lim grew up in Napa and San Francisco, graduated from the Illinois College of Optometry (ICO) in 1977 and opened his first practice in 1982. He believes some of his most profound contributions to public service were through his faith-inspired actions. From a young age he volunteered with his church. Since then, he has helped establish a new church in San Jose, and did multiple missions trips to Thailand. Dr. Lim also serves on the board of directors of the Chinatown Community Development Center (CCDC) in San Francisco which helps the elderly and the poor of the Chinatown community survive.



Tommy Lim, OD

All Eyes on You features the latest news about COA members.



Tommy Lim and his family are avid sports fans. In 2010 they packed up and travelled to Vancouver for the Olympic games, sporting USA pride.

"You passionately care for everything you are involved with — family, friends, church, optometry and sports. You make life fun, cool and meaningful! Congratulations on your award, California Optometrist of the Year! How cool is that?!"

—Bonnie Lim, Dr. Lim's wife

It's Dr. Lim's passion for helping others that has led to his significant contributions to the visual welfare of the public. Through a program called Project Homeless Connect (PHC), Dr. Lim has performed thousands of vision exams for the homeless since 2009.

In addition to serving his community and his church, Dr. Lim has also made an impact on optometry for his local, state and national optometric organizations. He has volunteered for fundraising activities for both AOA and COA and has travelled to Sacramento and DC for legislative conferences and visits to legislators. Dr. Lim volunteered his time and fundraising skills as a member of the finance team for Dr. Jennifer Ong's 2012 Assembly campaign. He is also involved in supporting his godson, Evan Low, in his race for Assembly District 28 for 2014. (Low is the son of another active COA member, Dr. Art Low.)

"I am a very lucky man, being in a profession that I absolutely love. Something that I didn't expect back when I graduated from ICO in 1977 was the level of involvement I would have in professional optometry. It is that involvement that has made optometry so special in my life, giving fulfillment to my career," said Dr. Lim.

Throughout his career, Dr. Lim has been a part of major legislative movements for optometry, including as a leader in the enactment of the legislation that permitted doctors of optometry to diagnose conditions and use therapeutic pharmaceutical agents in their treatment. He also played a role in promoting two laws that opened the door for expanded OD ability to treat glaucoma.

Over the last 30 years, Dr. Lim has stayed on the cutting edge of technology and research. He has been quoted in both state and

national optometric publications, including *California Optometry* and *Review of Optometric Business*. The *Review* also named him on the 2013 Optometric Innovators List for Digital Media.

Dr. Lim is respected by friends and family alike. "From optometry he so deeply cares for, to his endless work with AOA and COA PACs — to see them grow, to his volunteering and Facebooking — he does it all, and he still spends lots of his

time with family. Our dad truly amazes us every single day and we couldn't be more proud," said his son, Aaron, and daughter, Kelly.

The profession of optometry in the State of California and the nation has benefitted from Dr. Tommy Lim's involvement. The 2014 COA House of Delegates and COA Board of Trustees congratulate this great doctor of optometry — and thank him for his outstanding service and contributions!

Key Person spotlight A multi-faceted advocate: Doctor, professor, musician, scientist, Key Person

COA Key Persons are the backbone of COA's political program. As we work to increase the power of our grassroots program, it is important to highlight the outstanding work COA Key Persons are doing.

Dr. Paul Dobies is an assistant professor at Western University of Health Sciences College of Optometry (WUCO). Dr. Dobies has continuously led WUCO's involvement in COA legislative efforts by helping coordinate advocacy meetings on campus, taking students with him to legislative meetings and promoting the importance of organized optometry to all of his students. Thank you, Dr. Dobies, for all that you do for optometry as a COA Key Person!

Q: Why did you choose optometry as a profession?

PD: "Being blessed with a wide diversity of interests, I wanted a profession that would allow me to utilize my scientific interests with a 'people' focus during the day and also allow me the opportunity to pursue musical interests during nights and weekends. Optometry was perfect! My numerous life experiences are always put to use daily as an optometrist. Some of these life experiences include: being on the JPL Team that built the soil-analyzer experiment on the original Mars Lander, teaching high school math, obtaining a degree and other certifications in psychology, performing with many well-known 1960s recording artists, and caring for medical ophthalmology patients for 30 years. As I said before, optometry was, and continues to be, perfect for me."

Q: Why is it important for you to be involved in advocating for your profession as a Key Person for optometry?

PD: "As I emphasize to students, optometry is a legislated profession. That means that legislators ultimately define what



Dr. Paul Dobies (right) pictured with Congressman Ed Royce (left).

the scope of practice for what optometry currently is and will be. Bottom line, if you're not at the legislative table, you're on the legislative menu! At the very least, being a dues paying member of AOA/COA is 'insurance' that optometry exists and continues to exist."

Q: Were you intimidated the first time you met with your legislator?

PD: "I didn't feel intimidated the first time I met with a legislator for two reasons. First, I was shadowing along with an experienced Key Person in Sacramento during my first legislative meeting which allowed me to learn the ropes from my colleague. Second, I was born in a run-down area outside of Jersey City where we dealt with tough things and were not easily intimidated."

Q: How do you emphasize to your students, the next generation of ODs, the importance of advocating for optometry?

PD: "It may sound somewhat ordinary, but imagine putting your hand into a pool of water. That pool of water is health care legislation and that hand is political optometry. How long would it take for the water to fill in the space occupied by that hand if that hand was not in that pool of water? That was the image given to me when I was student. I pass it on to others in hopes that they will not only pass it forward themselves but, more importantly, dedicate themselves to putting their hands into the political arena for our patients. Those who put their hands into the work of political optometry provide the greatest benefits for all optometrists. Those hands are also the strongest 'insurance' for all of us to hopefully continue to enjoy the benefits of being a successful optometrist for many decades."

Key Person corner



< Senator Ellen Corbett (second from far right) pictured with doctors of optometry from the Alameda Contra Costa Counties Optometric Society (ACCCOS) at a CE meeting in March in Berkeley.



< Pictured at reception in Piedmont (L-R): COA Executive Director Bill Howe, Kristine Shultz, Jazzi Junge, Assembly Member Nancy Skinner, Dr. Page Yarwood, Dr. Mika Moy, Dr. Kristine Eng.



^ Assembly Speaker John Perez (left) pictured with COA Executive Director Bill Howe at an event in Sacramento.



^ Pictured at a meeting in Berkeley (L-R): COA President Dr. John Rosten, ACCCOS Past President Dr. Sara Chiu, COA Past President Dr. Page Yarwood, Assembly District 28 Candidate Evan Low, and Santa Clara County Optometric Society Key Person Coordinator Dr. Arthur Low.

COA San Diego County Optometric Society members offer vision care to hundreds

In March, San Diego County Optometric Society (SDCOS) members treated nearly 500 people seeking eye care at Chula Vista High School. The effort was organized by Lions In Sight, an organization of volunteers that stages approximately 25 free vision fairs a year in Southern California and Mexico. After automated refraction and non-contact tonometry were performed, the patients were seen by volunteer doctors of optometry to review vision and health complaints and history before patients were provided with recycled glasses. Patients were examined for potential cataracts, diabetic retinopathy, glaucoma and macular degeneration and if detected, informed they required additional treatment and needed to seek further care.

SDCOS Secretary Dr. Ketan Bakriwala and Dr. Bob Meisel, SDCOS public awareness chairman, along with Dr. Brian Van Dusen from the Calimesa Lions Club, participated in this well-organized event. Together with many dedicated volunteers, the team was able to assist 497 patients: 460 receiving recycled glasses, 20 needing unique prescriptions to be fabricated and 16 needing further care for various medical conditions.

For more information about Lions In Sight visit the website at: www.californialionsfriendsinsight.org.



Dr. Bob Meisel performing biomicroscopy on a patient with cataracts.



Drs. Ketan Bakriwala, Bob Meisel and Brian Van Dusen (L - R) with part of the 15,000 recycled glasses inventory in the background.

COA San Diego County Optometry Society continues vision screenings for homeless children

In a semi-annual vision screening this March, San Diego County Optometric Society (SDCOS) volunteers performed vision screenings on 212 students at the Monarch School, a K-12 institution that caters to homeless students. The screenings consisted of case history, visual acuity, retinoscopy, ophthalmoscopy, stereopsis, color and near testing. This is the sixth consecutive year for SDCOS volunteers to assist this unique school.

Four Veteran's Administration optometric residents and Dr. Bob Meisel, SDCOS public awareness chairman, provided the professional expertise at the screening. Of the 212 students examined, 91 were referred for further testing and potential glasses.

Each referral was evaluated by Rosemary Jaworski, RN, for a consultation with a parent. If no insurance coverage was available, VSP vouchers are provided for an examination and eyewear. Most of these children would not have the means for glasses without this invaluable service.

The next screening is scheduled for September, 2014.



Dr. Eva Wu and Dr. Jennifer Gee screening 6th grade students in the Monarch School health center.



Drs. Jennifer Gee, Bob Meisel, Denise Wong, Eva Wu and Andrew Ngo.



Dr. Denise Wong performing near testing and Dr. Andrew Ngo evaluating visual acuity with 4th grade students.

Contact lens-related limbal stem cell deficiency

Wendy Lam, OD



Optometry in Focus

After graduating from the UC Berkeley School of Optometry, Dr. Wendy Lam completed her residency in primary care and contact lenses. She currently works in private practice in the Bay Area, as well as acting as a clinical instructor and conducting diabetic research at UC Berkeley. She is also the president of the Alameda - Contra Costa Counties Optometric Society.

In 2010, there were an estimated 28.6 million soft contact lens wearers in the United States, a \$2.1 billion market.^{1,2} Worldwide, the soft contact lens market is estimated to be \$6.1 billion. More than ever, doctors are reaching first for silicone hydrogel lenses as their go-to in soft lens fittings. Of the reported new fits and refits in 2010 in the United States, 66% of patients were fit into silicone hydrogel soft contact lenses, compared to 25% into hydrogels and this trend is expected to continue.¹

As more and more patients are fit into soft contact lenses, practitioners must be more aware of the various complications that can arise, both common and rare. Some common complications of soft contact lens wear include giant papillary conjunctivitis, bacterial keratitis, toxic keratitis and inflammatory keratitis. A more rare condition, contact lens-related limbal stem cell deficiency, is often overlooked, partially due to its subtle early signs and symptoms. Though rare, it is a potentially sight-threatening condition, and should be included in the differential diagnosis for contact lens-wearers presenting with blurred vision or punctate keratitis.

The normal corneal epithelium is replenished by the limbal stem cells, which reside in limbal epithelial crypts within the palisades of Vogt. Schofield proposed that the limbal stem cells reside in an environment called the "stem cell niche" that is maintained by extrinsic factors like signaling molecules from adjacent cells, as well as by the physiology of the limbal basement membrane.³ The limbus provides a unique environment with a readily available blood supply, and both mechanical and ultraviolet protection.³⁻⁷

“ It is thought that various factors in contact lens wear contribute to damaging the limbal stem cells: mechanical trauma, chemical toxicity from contact lens solutions and corneal hypoxia.

Limbal stem cell deficiency (LSCD) occurs when there is an insufficient population of limbal stem cells. Primary LSCD occurs in conditions such as aniridia, congenital erythrokerato-dermia, neurotrophic keratopathy and chronic limbitis where the stromal environment cannot support the limbal stem cells. More commonly, LSCD is acquired secondary to external factors, such as in chemical or thermal injuries, and contact lens wear.^{3,5,8} It is thought that various factors in contact lens wear contribute to damaging the limbal stem cells: mechanical trauma, chemical toxicity from contact lens solutions and corneal hypoxia.

A definitive diagnosis requires impression cytology, either by identifying the presence of goblet cells on the corneal epithelium or by using cytokine specific dyes. Goblet cells are not normally found on the corneal surface as the limbal stem cells act as a barrier to conjunctivalization. Cytokine dyes are used as diagnostic tools because the cornea and conjunctiva express different keratins; cytokeratin 3 is found only in the cornea while cytokeratin 19 is expressed only in the conjunctiva.^{3,8}

LCSD can also be diagnosed clinically. Early signs and symptoms of LCSD are subtle, and can easily be confused with other more common contact lens complications. The earliest sign of LCSD is punctate fluorescein staining, which is due to the loss of tight junctions in the corneal epithelium, causing the basement membrane to stain. The most common location is the



superior cornea, possibly due to lens and lid mechanical interactions, though it can occur anywhere. This can initially look very similar to contact lens solution toxicity, and so should be on the differential diagnosis any time that patients present with punctate keratitis. Early on, patients may be symptomatic of blurred vision and photophobia. As LCSD progresses, the staining may show a whorl or vortex-like pattern which is due to the centripetal migration pattern of the epithelial cells. Other later clinical signs include recurrent corneal erosions, corneal haze, and conjunctivalization where the conjunctiva begins to grow over the cornea. Eventually, the cornea becomes opacified and vascularized, leading to loss of vision.¹⁰

“ Limbal stem cell autografts have the highest success rate, but are risky in bilateral cases, which are common in contact-lens related cases.

Currently, there is no standard of care for the treatment and management of contact lens-related LCSD. It is thought that LCSD is a continuum, ranging from dysfunctional epithelial cells to the complete loss of limbal stem cells.¹¹ In mild cases, discontinuation of contact lens wear along with non-pre-

served artificial tears has been effective; however, the resolution is slow and can take up to 24 months. Steroid treatment has been shown to hasten the improvement, suggesting an inflammatory component in etiology.² In more severe cases, surgical requirement is required, such as limbal stem cell grafts or amniotic membrane transplantation. Limbal stem cell autografts have the highest success rate, but are risky in bilateral cases which are common in contact-lens related cases.^{2,7,12}

But who is really at risk for developing this rarely seen condition? In two studies reviewed, the clinical features of patients with cytology confirmed diagnoses of limbal stem cell deficiency and a history of contact lens wear and found that the common factors were soft contact lens modality and increased wear time, both in mean duration of years as well as hours of daily wear. The mean number of years of contact lens wear was over 10 years, and that the average time worn daily was over ten hours. They also found that women were more likely to be diagnosed with LCSD, although there may be gender bias due to a greater number of female contact lens wearers.^{2,10}

What are the options for a contact lens wearer after resolution LCSD? After all, the first question patients ask when we diagnose any contact-lens related problem that requires them to stay out of their lenses for any length of time is, “When can

“After all, the first question patients ask when we diagnose any contact-lens related problem that requires them to stay out of their lenses for any length of time is, “When can I wear my lenses again?”

“When can I wear my lenses again?” Although full-time spectacle wear would eliminate all proposed causes for contact lens-related LSCD, many of these patients may have worn contact lenses for over a decade and would likely be unhappy facing a lifetime in their glasses. Opinions vary depending on the proposed etiology for LSCD. Contact lens options include refitting to daily soft-contact lenses to avoid contact lens solution toxicity, or refitting to rigid gas-permeable lenses to avoid mechanical trauma. One study showed no recurrence of LSCD with high Dk Menicon lenses over a year.¹³ Another option is fitting scleral lenses and completely vaulting over the limbus to completely avoid any further damage.¹¹ Although not common, there are also a few case reports where LASIK has been performed with good results as the LASIK flaps are well within the limbal area.²

Although LCSD is a rare contact lens disorder, as the old saying goes, “it’s not rare if it’s in your chair.” LCSD should be a differential when punctate staining is seen in patients with a long-term history of soft contact lens. With early detection and treatment, visual prognosis is generally good and most patients will be able to stay in contact lenses.

REFERENCES

1. Epstein A. Changing History...One Contact Lens at a Time. *Contact Lens Spectrum*. 2010 Nov. www.clspectrum.com/article.aspx?article=104959.
2. Jeng BH, Halfpenny CP, Meisler DM, Stock EL. Management of focal limbal stem cell deficiency associated with soft contact lens wear. *Cornea*. 2011 Jan; 30(1):18-23.
3. Notara M, Alataz A, Gilfillan J, Harris AR, Levis HJ, Schrader S, Vernon A, Daniels JT. In sickness and in health: Corneal epithelial stem cell biology, pathology and therapy. *Exp Eye Res*. 2010 Feb; 90(2):188-95. Epub 2009 Oct 17.
4. Hatch KM, Dana R. The structure and function of the limbal stem cell and the disease states associated with limbal stem cell deficiency. *Int Ophthalmol Clin*. 2009 Winter; 49(1):43-52.
5. Secker GA, Daniels JT. Corneal epithelial stem cells: deficiency and regulation. *Stem Cell Rev*. 2008 Sep; 4(3):159-68. Epub 2008 Jul 12.
6. Daniels JT, Dart JKG, Tuft, SJ, Khaw PT. Corneal stem cells in review. *Wound Rep Reg* 2001; 9:483-494.
7. Ahmad S, Kolli S, Lako M, Figueiredo F, Daniels JT. Stem cell therapies for ocular surface disease. *Drug Discov Today*. 2010 Apr; 15(7-8):306-13. Epub 2010 Feb 10.
8. Dua HS, Saini JS, Azuara-Blanco A, Gupta P. Limbal stem cell deficiency: concept, aetiology, clinical presentation, diagnosis and management. *Indian J Ophthalmol*. 2000 Jun; 48(2):83-92.
9. Donisi PM, Rama P, Fasolo A, Ponzin, D. Analysis of Limbal Stem Cell Deficiency by Corneal Impression Cytology. *Cornea*. 2003. 22(6) 533-538.
10. Chan CC, Holland EJ. Severe Limbal Stem Cell Deficiency From Contact Lens Wear: Patient Clinical Features. *Am J Ophthalmol* 2013; 155:544-549.
11. Schornack MM. Limbal stem cell disease: management with scleral lenses. *Clin Exp Optom* 2011; 94: 6: 592-594.
12. Dua HS, Miri A, Said DG. Contemporary limbal stem cell transplantation — a review. *Clin Experiment Ophthalmol*. 2010 Mar; 38(2):104-17.
13. Martin, R. Corneal conjunctivalization management with high Dk RGP contact lenses. *Contact Lens & Anterior Eye* 32 (2009) 147-150.



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The latest health care issues that affect doctors of optometry.

Health News & Views



William Rogoway,
OD, DABFE

Secrets of coding 2014 – A big year for California optometry

This year is destined to go down as an epic year for California optometry. Not only is the profession changing direction with proposed new scope legislation (SB 492, Hernandez), but our practices are going to have to adjust to the increased demands of

the new governmental health mandates that are going into effect later this year (PPACA). To top things off is the change-over of the ICD-9 codes to the ICD-10 codes on October 1, 2015 — a new date compliance extension but nonetheless a formidable change that requires advanced preparation.

At this point, the key for a smooth implementation and transition into the ICD-10 codes will be the practitioner's preparation and organization. By now, the optometrist should have purchased the ICD-10 codebooks and downloaded the GEMs mapping tool from Medicare. In addition, the optometrist and pertinent staff should have attended some ICD-10 courses, participated in webinars along with reviewing printed journal information. Furthermore, the practitioner should be continually evaluating their impact assessments as to how the new codes will be affecting each workstation, and then making necessary adjustments.

Since there is not a one-to-one translation from the ICD-9 to the ICD-10 diagnostic codes, the codes relevant to optometry will greatly increase. In most cases, the ICD-10 diagnostic codes will be accounting for laterality designated by right

eye, left eye or both eyes. Such as myopia where code 367.1 in ICD-9 converts in ICD-10 to:

Right eye	H52.11
Left eye	H52.12
Bilateral	H52.13

In the case of lids, the ICD-10 diagnostic codes also reference upper and lower lids.

Hordeolum externum (stye) code 373.11 in ICD-9 converts in ICD-10 to:

Right upper eyelid	H00.011
Lower eyelid	H00.012
Left upper eyelid	H00.014
Lower eyelid	H00.015

In glaucoma, and other complex conditions, most ICD-10 codes will be required to account for severity.

Glaucoma suspect - open angle with borderline findings; code 365.01 in ICD-9 converts in ICD-10 to:

Low risk

Right eye	H40.011
Left eye	H40.012
Bilateral	H40.013

High risk

Right eye	H40.021
Left eye	H40.022
Bilateral	H40.023

When first using the ICD-10 diagnostic codes, due to the initial ineptness of the practitioner combined with the sheer volume of the new codes, some experts expect a 15 percent increase in coding time per case in the exam room. In order to offset the loss of productivity, experts are recommending that the practitioner develop their own database of the codes that they can quickly reference.

This can easily be done by identifying your 10 most commonly used ICD-9 codes. Once you have converted the first set of ICD-10 codes, then continue on to the next 10, then 10 more. The conversion can be accomplished by using The GEMs Mapping Tool and the ICD-10 Coding Book to determine their ICD-10 equivalents. There is, however, some commercial ICD-10 translated coding lists beginning to show up that will make for easier reference. Check with your EMR suppliers, insurance billing vendors and practice management consultants to see if they are available to you.

By the practitioner compiling and translating their own list of their 30 most used codes, exam room time for finding the correct code will become manageable and less cumbersome than sifting through a 10-page document containing hundreds of codes. With a little maintenance over the ensuing months, a two-page database can be developed to ease the burden of dealing with the ICD-10 codes.

Good luck and keep on coding.



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Medi-Cal update

Donny Shiu, OD, Medi-Cal Vision Care program consultant

We are all creatures of habit. We do tasks the way we know how, and continue to do them that way – until our way doesn't work anymore. Hopefully, we can be one step ahead by preparing for changes that would otherwise disrupt our practices. The following are a couple of Medi-Cal billing items you need to know for 2014:

New CMS-1500 Claim Form: As of April 1, 2014, only claims submitted on the 02/12 version will be accepted and processed by Medi-Cal. Although the form is revised to accommodate an ICD-10 indicator, providers are cautioned not to use ICD-10 codes on claims before October 1, 2015, to avoid claim denials. Side-by-side comparisons of the current and new claim fields are available in the *New CMS-1500 Medi-Cal Guide* available at:

http://files.medi-cal.ca.gov/pubsdoco/Claims/downloads/NewCMSguide_21966.pdf

Refer to CMS-1500 Completion for Vision Care manual section for instructions on completing each claim field.

On October 1, 2015, the International Classification of Diseases (ICD) medical coding in US health care settings will change from ICD-9 code sets to ICD-10 code sets. All claim transactions, whether paper or electronic, will be required to be submitted using ICD-10 codes. Without ICD-10 codes, providers will experience delayed payments, non-payments and an increase in rejected, denied or pending claims.

Below are providers' questions for you to review.

Q DEAR DR. SHIU: A patient broke his eyeglasses at school. Is it possible to order a replacement? If so, how do I do that?

—Jennifer from Chico

A DEAR JENNIFER: Although the eyeglasses benefit is once every 24 months, lost, stolen, broken or significantly damaged eye appliances may be replaced. To do so requires the recipient or recipient's representative to supply the provider with a signed statement. The statement must certify that the loss, breakage or damage was beyond the recipient's control and must include the circumstances of the loss or destruction and, if applicable, the steps taken to recover the lost item.

A recipient's signed statement about the circumstances of replacement must be retained in the recipient's file for at least three years. Providers will not be held responsible for inaccurate statements by recipients. Providers may certify that

specific items require replacement due to normal wear and tear or aging and that no abuse is evident.

This replacement order can be placed through the CalPIA optical website. On your order, please select a replacement reason from the menu of choices in the Replacement Reason field.

There are situations where the patient has exceeded the number of allowable replacements in a 24-month period. In these cases, you will get a message as you input the order via the CalPIA optical website. You will be asked if the order is a biofocals non-adapt or prescription change. Since your order is not, please select <No> or <Cancel> to proceed to the prior authorization request screen where you will then be asked if you want to submit your request to be forwarded along with justifications to Medi-Cal for review. You will receive an electronic response in a timely manner from Medi-Cal.

FYI: The CalPIA optical website features are optimized for Microsoft Internet Explorer.

Q DEAR DR. SHIU: We often bill polycarbonate lenses to vision insurance plans, but why are my polycarbonate lens (code V2784) claims denied by Medi-Cal? When does it apply?

—Jane from Fresno

A DEAR JANE: Providers often confuse the lens codes with the billable services of dispensing/fitting of spectacles, codes 92340, 92341, or 92342. Lenses are not billable when the lenses are manufactured by CalPIA laboratory. Only lens dispensing is reimbursable in these cases. Because the lenses are provided for and manufactured by CalPIA at no cost to the providers and beneficiaries, you cannot bill for them. For the same reason, please do not submit Treatment Authorization Requests (TAR) for lens codes, such as V2784.

A TAR is appropriate when the order exceeds the CalPIA lab manufacturing parameters. Since an order cannot be fulfilled by CalPIA, you may request a TAR approval from Medi-Cal Vision Services Branch for this order to be made by an outside optical private lab of your choice and be reimbursed for fee-for-service recipients.

To obtain non-CalPIA lens prior authorization for Medi-Cal Managed Care recipients, please contact the Plan.

I hope you find this information useful.

If you have suggestions, comments or would like to submit questions to COA Medi-Cal update, please use the following address:

Department of Health Care Services
Pharmacy Benefits Division/Vision Services Branch
1501 Capitol Avenue, Suite 71.5144
PO Box 997413, MS 4604, Sacramento, CA 95899-7413
E-mail: vision@dhcs.ca.gov

Ocular telemedicine: enhancing compliance and providing access

Diabetes mellitus has become an epidemic in the United States currently affecting over 20 million American adults.^{1,2} Diabetic retinopathy (DR) is the leading cause of blindness among US adults and is the most common microvascular complication seen with diabetes.⁵ Early detection of DR can preserve vision by identifying those that need close monitoring and/or treatment. Diagnosed diabetes currently has an annual economic cost estimated to be around \$245 billion, of which \$69 billion is spent on indirect costs (disability, work loss, premature mortality, etc.).³ Given the coming tidal wave of diabetes, new and innovative methods must be developed and introduced to lower costs associated with identifying patients in need.

Annual eye exams to screen for diabetic retinopathy via conventional methods of referral at the request of a primary care physician (PCP) are at an estimated compliance rate of 30-60% of the diabetic population.^{4,9,12} Amongst the uninsured, which are at highest risk for diabetes-related vision loss, the compliance rate drops to 10-20%.¹ This disparity in screening rates attained by diabetic patients exposes an immense gap in our health care system, leaving many of these patients vulnerable to developing sight-threatening DR that will go unchecked until it is too late for treatment to be effective.

Teleretinopathy screening in a primary care setting using digital imaging is a cost-effective way to improve compliance and capture, and also directly links the eye care provider (who provides the remote consult) with the PCP, who is responsible for managing all systemic manifestations and complications that diabetes presents. EyePACS is a license-free, web-based program that utilizes non-mydratiac retinal cameras to capture

color fundus images, encrypted data transfer and credentialed consultants for review of the images.¹² With the implementation of teleretinopathy screenings into these primary care settings, many of the patients not receiving any form of eye care can receive much needed access to retinal screening.

The American Diabetes Association (ADA) recommends that patients with diabetes receive an initial dilated examination and annual exams moving forward. Patients who have one or more normal examinations may be considered for less frequent examinations (every 2-3 years) depending on exam findings.¹⁶ Since 2012, the ADA has also acknowledged that diabetic screening can be performed using high quality fundus images.

It may prove effective to use fundus images in conjunction with dilated retinal examinations to monitor for DR. The recommendation to utilize retinal photos via telemedicine to monitor DR should be considered in many primary care settings as this will substantially lower the cost and increase compliance of monitoring DR.

Ocular telemedicine is not only a valuable tool in monitoring for diabetic retinopathy, but can be utilized to screen for other ocular conditions such as: cataracts, glaucoma, macular degeneration, retinal emboli, epiretinal membranes and hypertensive retinopathy. Around 40% of diabetic patients have at least one non-diabetic retinopathy finding identified with retinal screenings utilizing fundus photography.¹⁷

Note: This is a teaser for our April CE@Home Online article. You may view the references in the full article on our website at coavision.org. Click on the CE@Home Online logo.

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*Low Vision Rehabilitation Section —
The view ahead*

COA's Low Vision Rehabilitation Section (LVRS) works to improve the quality of low vision rehabilitation services provided to the public and to promote the professional development of COA member optometrists, thereby furthering the mission of the Association. For more information on LVRS and how to join, visit coavision.org and under the membership tab click on Low Vision Rehabilitation Section.

Membership growth, new low vision video, highlight COA LVRS accomplishments

Gary Asano, OD

Now in its fifth year, COA's Low Vision Rehabilitation Section (LVRS) has surged this year to nearly 150 members. The following is an update on what the section has accomplished in the past six months.

Two events took place on September 25. First, COA Communications and Social Media Manager Rachael Van Cleave filmed a low vision (LV) video at the UC Berkeley School of Optometry clinic (you can find the video "What is Low Vision?" by going to coavision.org and clicking on the optometry video's link on the home page). The video features a faculty member as a "patient" and two of the LVRS officers demonstrating LV aids being utilized during the course of an exam. Then, in the evening, 50 optometric students attended a presentation given by Drs. Jennifer Che and Gary Asano. Topics included low vision in private practice, LV residencies and encouraging student membership. The presentation was so inspiring it moved 33 students to join LVRS, increasing student membership by 600 percent!



In November, seventeen LVRS members attended presentations by several assistive technology and low vision product companies in Chatsworth.

At the end of 2013, LVRS established a student award to foster interest in low vision early in a student's academic career. It will be given to two third-year students: one at Marshall B. Ketchum University's Southern California College of Optometry and one at Western University of Health Sciences College of Optometry (WUCO). The award is a low vision diagnostic starter kit from Optelec.

On February 26, Drs. Che and Asano took their "show" to WUCO, where 98 students attended the presentation and at least 52 completed membership applications. Combining OD and student/resident members, LVRS total membership is fast



approaching 150. LVRS has one more college presentation planned for spring.

On March 3, there was a two-part event. First, 23 LVRS members attended a presentation by Optelec on their newest products. This was followed up with a "brainstorming session" with topics centering on the development of novel low vision diagnostic techniques and low vision aids that address the specific needs of our patients. This shows that innovative companies with a wide range of products want to know what patients' actual needs and goals are, and their desire to make the leap "outside of the box."



Carl Garbus, OD, FAAO, COA Low Vision Rehabilitation Section vice chair.



AUTHOR

A graduate of the Southern California College of Optometry, Dr. Gary Asano has been a low vision rehabilitation optometrist at the Center for the Partially Sighted (CPS) since 1981. He is an assistant professor at SCCO, has been an outreach clinical coordinator at CPS, and coordinator of low vision at the Optometric Center of Los Angeles (SCCO Outreach). He is the founding chair of the Low Vision Rehabilitation Section of COA. He is also a staff optometrist specializing in low vision rehabilitation at Kaiser Permanente, Los Angeles Metro Medical Center. He has authored several articles in *California Optometry* and contributes to the *AOA Vision Rehabilitation Section* newsletter.

Clinical management of progressive myopia

Anne Tasaki
Yue Liu
Christine Wildsoet



CE@Home

Dr. Tasaki is the current Pediatric and Primary Care Resident at the University of California Berkeley School of Optometry. She is originally from Honolulu, Hawaii. She received her bachelor of science from the University of California at Los Angeles and her optometry degree from the University of California Berkeley School of Optometry. She hopes to incorporate her experience with myopia control techniques into her care of pediatric patients in her future practice.

Dr. Liu is a Chinese-trained Ophthalmologist and American-trained Optometrist. She first became involved in myopia research with her PhD and MPH training at UC Berkeley and started serving as a faculty member of the School of Optometry, UC Berkeley in 2012. The optical influence of myopia development and its utilization on myopia control have remained the main focus of her research as well as clinical practice. On the research side, she focuses on understanding the fundamental mechanisms of how complex optical environment affects emmetropization and ocular growth; and on the clinical side, she uses novel contact lenses such as multifocal soft contact lenses and orthokeratology lenses as anti-myopia treatments to help slow down the progression of clinical myopia.

Professor Wildsoet is a full professor in the School of Optometry/Vision Science Program at the University of California. She is a fellow of both the American Academy of Optometry and ARVO, a long-term member of the IOVS editorial board and a regular reviewer for many granting bodies, including the National Eye Institute of national Institutes of Health and a variety of other journals.

Myopia is a common condition that has traditionally been regarded as benign, although it has long been known that high myopia, generally classified as greater than $-6D$, carries a significant risk for sight-threatening pathology. Common complications associated with high myopia include early onset cataract, glaucoma, retinal detachment, myopic maculopathy and choroidal neovascularization, etc.^{1,2} However, a recent study of risk factors reinforced the fact that all myopes carry an increased risk of such complications, with the risk increasing with the magnitude of myopia.³ The prevalence of myopia is increasing worldwide, especially in developed east and south-east Asian countries such as Singapore, Taiwan, China, Japan and Korea. Urban areas of these countries are impacted most, with studies reporting prevalence figures as high as 80-90% in high school children, 10-20% of whom have high myopia.⁴ In the US, the prevalence of myopia has also shown a dramatic increase from 24% in 1986 to over 40% in 2010, affecting approximately 18 million people, according to the National Eye Institute.⁵ By 2030, that number is expected to increase to more than 30 million people. The incidence of high myopia in the US has also risen significantly, further increasing the number of people at risk of potential irreversible vision loss. All these numbers add up to make myopia one of the leading causes of blindness worldwide as well as a major economic burden. As eye care practitioners, it is important to keep up to date with current research and treatment options available for our patients at risk of developing myopia, especially high myopia.

Risk factors for rapid myopia progression

Numerous ongoing studies are attempting to identify the factors contributing to the development and progression of myopia. What is clear so far is that multiple factors are involved. Genetics are likely to play a role, as suggested by studies reporting that children with either one or two myopic parents are more likely to develop myopia compared to children without myopic parents.^{6,7} Nonetheless, it is also plausible that the behavioral traits that caused myopia in the parents are passed on to their children. Specifically, since children are likely exposed to similar lifestyles and environments to their parents, it is difficult to separate environmental and genetic influences. As a result, caution needs to be exercised in interpreting the results of genetic studies. Genome-wide association studies represent a more direct approach for identifying the genetic contribution to myopia, with more than 20 loci linked to refractive error development in recent studies.⁸ However, these loci collectively explain less than 5% of the variation seen in refractive errors within populations, suggesting extremely low penetrance of identified genes. These results also imply that complex genetic-environmental interactions play a critical role in the development and progression of myopia.

Although there is little doubt that myopia has a strong genetic component, there is overwhelming epidemiological evidence demonstrating the critical influence of environmental factors on emmetropization and myopia development. Similar results from various population studies involving different ethnicities point to outdoor activities serving as a strong and independent protective factor.^{9,10,11} Children who spend more time outdoors are less likely to become myopic than children who spend less time outdoors, after adjusting for the amount of time spent indoors. However, the nature of this protective effect is not well understood; the intensity and/or the specific spectral distribution of outdoor lighting, hormonal changes associated with outdoor activities, and optical defocus factors are those under consideration as the source of this protective effect.^{12,13,14}

It has been speculated that increased encounters of hyperopic defocus in close-up (indoor) environments³ contribute to myopia progression. Despite evidence from animal models suggesting a causal link between hyperopic imposed defocus and myopia development, clinical epidemiological studies investigating the role of near work on myopia progression have not consistently shown a strong association.^{15,16} Nonetheless, one study reported that although myopia was not significantly associated with the total amount of time spent with near work, close reading distance (<30 cm) and continuous reading (>30 min) were independently associated with greater odds of having myopia.¹⁷ This suggests that the intensity of near work rather than its total duration may be a more important contributing factor in the development of myopia. It should also be noted that most studies to-date have relied on questionnaires for such data, which may not accurately capture the key environmental factors.

In summary, it is evident that the development and progression of myopia is significantly influenced by genetic predisposition as well as environmental factors, and that the interactions between these factors are extremely complex. Unlike cases such as congenital color blindness where the individual's genes directly lead to the manifestation of the condition, in most cases of myopia, genetic abnormalities likely only increase one's susceptibility to developing myopia when exposed to provocative environmental risk factors.

Treatment options for progressive myopia

In managing myopia, the goal is to not only provide patients with clear vision, but to also slow the rate of axial length elongation in still progressing myopes. In doing so, one is minimizing the risk of subsequent ocular complications, which may lead to permanent vision loss.

Topical atropine as an anti-myopia drug therapy: Topical atropine has demonstrated the greatest efficacy among all anti-myopia treatments investigated in clinical trials. For

example, one two-year study observed a 77% reduction in mean progression of myopia compared to placebo treatment with 1% atropine eye drops applied daily.¹⁸ However, the adoption of this atropine treatment protocol has not been wide-spread due to a high incidence of ocular side effects. Common side effects of 1% topical atropine include mild to moderate discomfort, as well as glare and blurred near vision associated with atropine's mydriatic and cycloplegic actions; long-term use also carries a risk of allergic reactions. Perhaps of greater concern is the finding of a significant rebound effect after cessation of treatment with 1% topical atropine, i.e., increased myopia progression relative to eyes previously receiving the placebo treatment. Nonetheless, the absolute myopia progression after three years was still significantly lower in the group receiving the atropine treatment compared with the placebo group. Also, the effect of the atropine treatment on accommodation was not permanent; after cessation of the atropine treatment, amplitudes of accommodation and near visual acuity returned to pretreatment levels.¹⁹



In managing myopia, the goal is to not only provide patients with clear vision, but to also slow the rate of axial length elongation in still progressing myopes.

Follow-up clinical trials using much lower concentrations of topical atropine, down to 0.01%, reported slowing of myopia progression, albeit less than with 1% atropine, but with significantly reduced ocular side effects. Importantly, 0.01% atropine showed no rebound effect after the cessation of the treatment.²⁰ Note, however, that topical atropine is only commercially available as a 1% formulation in the US; lower concentrations require special formulation. Although the pharmacological mechanism and site of action underlying this anti-myopia effect of atropine is still not well understood, topical atropine remains the only viable drug option for treating progressive myopia, and deserves serious consideration, especially in cases of rapidly progressing myopia for which alternative optical treatments fail to provide effective control.

Orthokeratology as an anti-myopia optical therapy: One optical treatment showing great promise as a myopia control therapy is Orthokeratology (OrthoK). OrthoK makes use of a reverse-geometry gas-permeable lens that is specially designed to reshape the cornea with overnight wear to allow clear vision throughout the day without the need for spectacle or contact lens corrections.²¹ For this reason, it is traditionally

prescribed to low to moderate myopes. However, based on promising findings from a number of small-scale studies, first in East Asian countries, OrthoK is increasingly being used for the purpose of myopia control. Converging evidence from clinical trials based in Asia, Europe and in the US suggest that the rate of progression can be reduced by approximately 50% as measured by axial length changes with OrthoK compared to progression in those wearing single vision soft lenses and/or spectacles.^{22,23,24} As an explanation for this myopia treatment effect, it has been hypothesized that the reshaping of the central and paracentral corneal regions by OrthoK creates relative myopic defocus on peripheral retinal regions, thereby slowing eye elongation. While OrthoK lens wear reduces on-axis myopia by flattening the central cornea, the paracentral cornea steepens, producing a relative myopic shift off-axis.^{25,26} Consistent with these corneal effects, in myopic children, off-axis (peripheral) refractive errors are reported to be more hyperopic relative to on-axis refractive errors. Simulation of such effects in animal studies using lenses designed to impose peripheral myopic defocus, a known "stop signal" to axial elongation, also slows progression of myopia.^{27,28}

Multifocal soft contact lenses as an alternative anti-myopia optical therapy: Distance center multifocal soft contact lens (MFSCCL) designs, like OrthoK lenses, also appear to slow myopia progression. Clinical trials investigating their myopia-controlling effects were fewer in number and generally smaller in scale than those involving OrthoK lenses, likely contributing to the much greater variability in published outcomes. Nonetheless, the overall anti-myopia effects from MFSCCL appear to be similar to those reported for OrthoK treatment,^{29,30} which may not be surprising given that both designs produce similar (myopic) shifts in peripheral defocus.³¹ Interestingly, MFSCCL with center near designs also appear to be effective in controlling myopia (unpublished data), perhaps reflecting interactions between lens and ocular aberrations, which are known to influence the optimal state of focus of the eye.³²

Although it has been consistently demonstrated in various animal models that myopic defocus, imposed with positive lenses, prevents the development and progression of myopia, clinical trials investigating the effects of bifocal (BF) and progressive addition (PAL) spectacle lenses on myopia progression have generally yielded disappointing, typically clinically insignificant results.^{33,34,35} Poor compliance with BF and/or PAL treatments may be one contributing factor, given that most children have little incentive to look down through the near add during near work. However, other optical differences between the various multifocal spectacle lens designs and MFSCCL and OrthoK designs may be more important in explaining their relatively poor treatment efficacy. Specifically, the total area of the positive defocus imposed by BF and PAL spectacle lenses is relatively limited and also gaze-dependent in both cases. Neither is true for OrthoK and

MFSCCL lenses. Evidence supporting this interpretation comes from a study using high set executive BF lenses, which also reported improved efficacy compared to typical multifocal spectacle lens studies.³⁶

A common clinical practice, especially in Asia, is to undercorrect myopia when prescribing single vision spectacles in the hope of slowing down myopia progression. A handful of small retrospective and prospective studies on this topic have reported mixed results. However, the most recent of these studies, a 2-year prospective randomized controlled trial, found that undercorrection produced more rapid myopia progression and axial elongation compared to full correction.³⁷ Nonetheless, the results of this study are difficult to interpret due to the use of variable amounts of undercorrection; the prescription of each subject was undercorrected by the amount which allowed them to maintain 20/40 visual acuity in each eye, which averaged +0.75 D overall. Just how such treatments affect the retinal defocus experience during near work is also yet to be investigated but possibly relevant. Potentially valuable insights will be provided by the Full Correction and Undercorrection of Myopia Evaluation Trial (FUMET), a larger randomized, double-blind, controlled trial that is currently underway in China. FUMET is designed to determine the efficacy of spectacle undercorrection by +0.50 D as a myopia control treatment option.³⁸ However, pending the results of FUMET, undercorrection of myopia is not advised as a myopia control strategy.

Vision therapy for myopia control: Finally, vision therapy primarily focused on improving accuracy and/or facility of accommodation has also been used empirically as an anti-myopia treatment. However, results of clinical studies investigating such effects have been equivocal.³⁹

Clinical Recommendations

Based on currently available evidence, OrthoK and MFSCCL treatments are the most clinically viable options for myopia control, considering their significant efficacy and minimal long-term ocular side effects. Neither carry a greater risk of infection/adverse events than other daily wear or extended wear contact lenses,^{40,41} and furthermore, both options can easily be integrated into clinical practice. Children to consider fitting with these lenses are those who have progressed in their myopia by a diopter or more in one year and are mature enough to handle the insertion, removal, and care of their lenses independently or with very little parental help. Other factors to consider are age and level of myopia, and patient and parent motivation. Ideally, patients should adhere to anti-myopia treatment until stabilization of their myopia, which can take several years, even extending into early adulthood depending on their life choices.

In a practice setting, very few extra supplies and equipment are needed to provide these contact lens treatment options.

OrthoK requires a trial fitting set and a topographer is also essential to the fitting and follow-up process. Once the cornea has undergone reshaping, eyes are left with minimal refractive error, making it nearly impossible to detect mild myopic progression. Thus, in order to monitor progression, an IOL-master or LENSTAR, which allow noncontact monitoring of axial length changes with high precision, is absolutely critical. For success in OrthoK fitting, completion of a certificate training process is also recommended. MFSCCL require less investment. The Biofinity multifocal contact lens is a good option for children because of its center distance design; it offers better distance vision than near center designs, and has high oxygen permeability. It also comes with a few add options. Considerations in the initial add power selection include the current rate of progression, ocular posture at near (in the CONTROL study, near fixation disparities were neutralized), as well as best correctable distance acuity, etc. Although changes in refractive error offer a more valid measure of progression in MFSCCL than in the case of OrthoK, the purchase of an IOLmaster or LENSTAR is strongly recommended to obtain axial length data as an independent measure of myopia control; this data also represents a valuable teaching tool for patients.

The appropriate selection for individual patients of OrthoK versus MFSCCL is a multifactorial decision, based on the severity of baseline myopia, corneal curvature and asphericity, daily activities of the patients and financial and time investment, etc. OrthoK requires frequent follow-ups, especially during the fitting process, which may extend over a couple of months. There is also an upper limit to the amount of myopia that can be corrected with OrthoK, of around -6 D, with substantial individual variations. In general, with higher levels of baseline myopia, i.e., greater than -4 D, corneal reshaping effects also tend to decrease more quickly over the course of the day, increasing the likelihood of fluctuating vision and slight distance blur at night. On the other hand, fitting MFSCCL is relatively straightforward and is less limited by the severity of myopia. However, many parents may be uncomfortable letting their children wear such contact lenses away from their guidance and monitoring during the day at school. Regardless of the modality selected, providing contact lens treatments to children for myopia control requires a comprehensive understanding of the treatment – its potential benefits, risks and limitations, with thorough patient/parent education being of paramount importance.

The long-term potential beneficial effects of OrthoK and MFSCCL on myopia progression strongly outweigh the potential risks associated with contact lens wear. Both treatments can be expected to reduce myopia progression by 50% on average compared to single vision correction options. Importantly, the anti-myopia effects from both modalities appeared to be without significant rebound progression should the treatment

be discontinued before myopia has stabilized, in contrast to the case of topical 1% atropine treatment.

What role does topical atropine have in the clinical management of myopia? Because of the adverse ocular side effects and rebound effects reported for 1% topical atropine, its use is not advised. However, 0.02% topical atropine has recently been shown to be without significant effects on accommodation and pupil function;⁴² given the latter observation and findings of significant control effects with doses as low as 0.01%, it seems reasonable to consider the off-label use of topical low dose atropine (0.01-0.02%) in rapidly progressing myopes and/or those for whom contact lenses treatments are not a viable option. Nightly instillation, just before bed, will also ensure that any effects on pupil and accommodation are minimized during the day. The services of a formulation pharmacy will be required to obtain a suitable product.

Although further research needs to be done to obtain better understanding of the causes of myopia progression, the above treatment options for controlling progression warrant more wide-spread use in clinical practice. With early intervention, eye care practitioners can have a positive impact on the future of patients' vision, minimizing their risk of pathological complications and permanent vision loss.

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REFERENCES

1. Wong TY, Ferraira A, Hughes R, et al. "Epidemiology and disease burden of pathologic myopia and myopic choroidal neovascularization: an evidence-based systematic review" *Am J Ophthalmol* 2014; 157(1): 9-25.
2. Saw SM, Gazzard G, Shih-Yen EC, and Chua WH. "Myopia and associated pathological complications" *Ophthalmic Physiol Opt* 2005; 25(5): 381-391.
3. Flitcroft DL. "The complex interactions of retinal, optical and environmental factors in myopia aetiology" *Prog Retin Eye Res* 2012; 31(6): 622-60.
4. Lin LL, Shih YF, Hsiao CK, et al. "Epidemiologic study of the prevalence and severity of myopia among school children in Taiwan in 2000" *J Formos Med Assoc* 2001; 100(10): 684-691.
5. Vitale S, Sperduto RD, and Ferris FL III. "Increased prevalence of myopia in the United States between 1971-1972 and 1999-2004" *Arch Ophthalmol* 2009; 127(12): 1632-1639.
6. French AN, Morgan IG, Mitchell P, and Rose KA. "Risk factors for incident myopia in Australian school children: The Sydney adolescent vascular and eye study" *Ophthalmology* 2013; 120(10): 2100-2108.
7. Jones LA, Sinnott LT, Mutti DO, et al. "Parental history of myopia, sports and outdoor activities, and future myopia" *Invest Ophthalmol Vis Sci* 2007; 48: 3524-3532.
8. Verhoeven VJ, Hysi PG, Wojciechowski R, et al. "Genome-wide meta-analyses of multiancestry cohorts identify multiple new susceptibility loci for refractive error and myopia" *Nat Genet* 2013; 45(3): 314-318.
9. Sherwin JC, Reacher MH, Keogh RH, et al. "The association between time spent outdoors and myopia in children and adolescents: a systematic review and meta-analysis" *Ophthalmology* 2012; 119(10): 2141-2151.
10. Dirani M, Tong L, Gazzard G, et al. "Outdoor activity and myopia in Singapore teenage children" *Br J Ophthalmol* 2009; 93(8): 991-1000.
11. Rose KA, Morgan IG, Ip J, et al. "Outdoor activity reduces the prevalence of myopia in children" *Ophthalmology* 2008; 115(8): 1279-1285.
12. Ashby R, Ohlendorf A, and Schaeffel F. "The effect of ambient illuminance on the development of deprivation myopia in chicks" *Invest Ophthalmol Vis Sci* 2009; 50(11): 5348-5354.
13. Smith EL III, Hung LF, and Huang J. "Protective effects of high ambient lighting on the development of form-deprivation myopia in rhesus monkeys" *Invest Ophthalmol Vis Sci* 2012; 53(1): 421-428.
14. Cohen Y, Peleg E, Belkin M, et al. "Ambient illuminance, retinal dopamine release and refractive development in chicks" *Exp Eye Res* 2012; 103: 33-40.
15. Lu B, Congdon N, Liu X, et al. "Associations between near work, outdoor activity, and myopia among adolescent students in rural China: the Xichang pediatric refractive error study report no. 2: *Arch Ophthalmol* 2009; 127(6): 769-775.
16. Jones-Jordan LA, Mitchell GL, Cotter SA, et al. "Visual activity before and after the onset of juvenile myopia" *Invest Ophthalmol Vis Sci* 2011; 52(3): 1841-1850.
17. Ip JM, Saw SM, Rose KA, et al. "Role of near work in myopia: findings in a sample of Australian school children" *Invest Ophthalmol Vis Sci* 2008; 49(7): 2903-2910.
18. Chua WH, Balakrishnan V, Chan YH, et al. "Atropine for the treatment of childhood myopia" *Ophthalmology* 2006; 113(12): 2285-2291.
19. Tong L, Huang XL, Koh AL, et al. "Atropine for the treatment of childhood myopia: effect on myopia progression after cessation of atropine" *Ophthalmology* 2009; 116(3): 572-579.
20. Chia A, Chua WH, Cheung YB, et al. "Atropine for the treatment of childhood myopia: safety and efficacy of 0.5%, 0.1%, and 0.01% doses (atropine for the treatment of myopia 2)" *Ophthalmology* 2012; 119(2): 347-354.
21. Swarbrick HA. "Orthokeratology (corneal refractive therapy): What is it and how does it work?" *Eye Contact Lens* 2004; 30(4): 181-185.
22. Cho P and Cheung SW. "Retardation of myopia in orthokeratology (ROMIO) study: a 2-year randomized clinical trial" *Invest Ophthalmol Vis Sci* 2012; 53(11): 7077-7085.
23. Santodomingo-Rubido J, Villa-Collar C, Gilmartin B, and Gutierrez-Ortega R. "Myopia control with orthokeratology contact lenses in Spain: refractive and biometric changes" *Invest Ophthalmol Vis Sci* 2012; 53(8): 5060-5065.
24. Kakita T, Hiraoka T, and Oshika T. "Influence of overnight orthokeratology on axial length elongation in childhood myopia" *Invest Ophthalmol Vis Sci* 2011; 52(5): 2170-2174.
25. Kang P and Swarbrick H. "Peripheral refraction in myopic children wearing orthokeratology and gas-permeable lenses" *Optom Vis Sci* 2011; 88(4): 476-482.
26. Queiros A, Gonzalez-Mejome JM, Jorje J, et al. "Peripheral refraction in myopic patients after orthokeratology" *Optom Vis Sci* 2010; 87(5): 323-329.
27. Liu Y and Wildsoet C. "The effect of two-zone concentric bifocal spectacle lenses on refractive error development and eye growth in young chicks" *Invest Ophthalmol Vis Sci* 2011; 52(2): 1078-1086.
28. Liu Y and Wildsoet C. "The effective add inherent in 2-zone negative lenses inhibits eye growth in myopic young chicks" *Invest Ophthalmol Vis Sci* 2012; 53(8): 5085-5093.
29. Walline JJ, Greiner KL, McVey ME, and Jones-Jordan LA. "Multifocal contact lens myopia control" *Optom Vis Sci* 2013; 90(11): 1207-1214.
30. Anstice NS and Phillips JR. "Effect of dual-focus soft contact lens wear on axial myopia progression in children" *Ophthalmology* 2011; 118(6): 1152-1161.
31. Aller TA and Wildsoet CF. "Results of a one-year prospective clinical trial (CONTROL) of the use of bifocal soft contact lenses to control myopia progression" *Ophthalmic Physiol Opt* 2006; 26: 8-9.
32. Tarrant J, Severson H, Wildsoet CF. "Accommodation in emmetropic and myopic young adults wearing bifocal soft contact lenses" *Ophthalmic Physiol Opt* 2008; 28: 62-72.
33. Gwiazda J, Hyman L, Hussein M, et al. "A randomized clinical trial of progressive addition lenses versus single vision lenses on the progression of myopia in children" *Invest Ophthalmol Vis Sci* 2003; 44(4): 1492-1500.
34. Berntsen DA, Sinnott LT, Mutti DO, and Zadnik K. "A randomized trial using progressive addition lenses to evaluate theories of myopia progression in children with a high lag of accommodation" *Invest Ophthalmol Vis Sci* 2012; 53(2): 640-649.
35. COMET 2 Study Group for PEDIG. "Progressive addition lenses versus single vision lenses for slowing progression of myopia in children with high accommodative lag and near esophoria" *Invest Ophthalmol Vis Sci* 2011; 52(5): 2749-2757.
36. Cheng D, Woo GC, Schmid KL. "Bifocal lens control of myopic progression in children" *Clin Exp Optom* 2011; 94(1): 24-32.
37. Chung K, Mohidin N, and O'Leary DJ. "Undercorrection of myopia enhances rather than inhibits myopia progression" *Vision Res* 2002; 42(22): 2555-2559.
38. Li SM, Li SY, Liu LR, et al. "Full correction and undercorrection of myopia evaluation trial: design and baseline data of a randomized, controlled, double-blind trial" *Clin Experiment Ophthalmol* 2013; 41(4): 329-338.
39. Price H, Allen PM, Radhakrishnan H, et al. "The Cambridge anti-myopia study: variables associated with myopia progression" *Optom Vis Sci* 2013; 90(11): 1274-1283.
40. Watt KG and Swarbrick HA. "Trends in microbial keratitis associated with orthokeratology" *Eye Contact Lens* 2007; 33: 373-377.
41. Watt KG, Boneham GC, and Swarbrick HA. "Microbial keratitis in orthokeratology: the Australian experience" *Clin Exp Optom* 2007; 90(3): 182-187.
42. Cooper J, Eisenberg N, Schulman E, and Wang FM. "Maximum atropine dose without clinical signs or symptoms" *Optom Vis Sci* 2013; 90(12): 1467-72.

CE Questions

- Children with which of the following are most likely to develop myopia:
 - No parents with myopia
 - One parent with myopia
 - Two parents with myopia
 - A family history of myopia does not affect the likelihood the child will develop myopia
- The two methods most supported by clinical studies to control myopia progression are:
 - Orthokeratology and soft multifocal contact lenses
 - Progressive addition lenses and soft multifocal contact lenses
 - Orthokeratology lenses and spectacle undercorrection
 - Progressive addition lenses and spectacle undercorrection
- According to a National Eye Institute study, the prevalence of myopia in persons aged 12 to 54 years in the US from 1999-2004 is:
 - 25.0%
 - 41.6%
 - 64.2%
 - 80.0%
- Which of the following has NOT been shown to be effective in reducing myopia progression?
 - Topical atropine
 - Orthokeratology lenses
 - Soft multifocal lenses
 - Vision therapy
- High myopia is associated with an increased risk of:
 - Retinal detachment
 - Cataract
 - Glaucoma
 - All of the above
- What factors likely contribute to the progression of myopia?
 - Environmental factors only
 - Genetic factors only
 - A complex interaction of both environmental and genetic factors
 - Neither environmental nor genetic factors play a role in the progression of myopia
- Orthokeratology and soft multifocal contact lenses have been shown to slow down the rate of myopia progression by approximately what percent?
 - 15%
 - 25%
 - 50%
 - 75%
- Why is atropine not a first-line treatment for myopia control?
 - 0.01% topical atropine is not commercially available in the US
 - The long-term effects of daily topical atropine use are not yet known
 - Studies have shown a small rebound effect after cessation of treatment
 - All of the above
- How does near work affect myopia progression?
 - Near work does not affect myopia progression
 - The duration of near work affects myopia progression
 - The intensity of near work affects myopia progression
 - Both duration and intensity of near work affect myopia progression
- Which of the following prescriptions would be a good candidate for orthokeratology contact lenses?
 - 8.00 DS OU
 - 4.50 -3.00 x 180 OU
 - 1.00 -0.50 x 180 OU
 - None of the above

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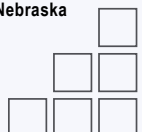
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