

2023
Resident Edition

YO Info

THE YOUNG OPHTHALMOLOGIST'S NEWSLETTER

Your source for clinical pearls, coding, practice management advice, advocacy and more.

A Program Director's Guide to Being a Rock Star Resident

Anyone can be a rock star! Having the right mindset goes a long way in helping to realize your potential. Keep these tips in mind throughout residency and rock out!

Be enthusiastic!

You worked very hard to get here. Don't coast, and don't squander your potential. In 2022, 748 applicants participated in the ophthalmology match process, but only 507 spots were filled. That means 32% of applicants never got the chance that you did. Remember the feeling you got when you found out you matched, and hold on to that gratitude. We are extraordinarily lucky to be able to protect and restore sight. It is a gift that we share every day in our practice.

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Dr. Winokur steps into his "rock star" persona to perform an exam on a patient. Don't settle for anything less than being a rock star! Follow this guide and you too can rock out at work like Dr. Winokur. 🎸

Remember why you are here.

In residency it's easy to get bogged down with day-to-day tasks and lose sight of the goal. Make yourself remember that we (both the residents and the faculty) are all here for a reason: to teach and learn how to provide for patients throughout the entirety of our careers. You need to buy into this idea. Residency may seem long at times, but in reality it's extremely short, and there is so much to learn. Learning is not passive — it requires effort.



Dr. Winokur pictured with colleague Isha Cheela, DO, preparing for AUPO surgical curriculum for ophthalmology residents course (SCOR).

Never be afraid to ask a question.

As faculty we know that you're here to learn, and we want to teach. Asking questions is not a sign of weakness. It is how we all fill the gaps in our knowledge base. It's difficult to teach someone who wants to show that they're already perfect. I've been in practice for 15 years and am still learning new things — many times from my own trainees. So don't be shy!

Every patient encounter is a chance to learn.

It's a little hard to remember this when getting called for a consult at 2 a.m. If you think of the experience as a chance to make yourself better, it takes the sting out of being woken up. And remember, never argue with a consultant asking for help! Even as a PGY-1 in ophthalmology, you are likely *the* person with the most knowledge about the eye in the entire hospital at any given time. And you never know what you're going to see.

Always be on time.

Being late is interpreted as a lack of interest. Once the day starts off on the wrong foot, it can be hard to recover. The attending may feel that if you don't care to learn, they shouldn't have to care to teach. If you're late to the OR, it will add stress to an already stressful day.

Be prepared.

Nothing says that you're ready to learn like having some background knowledge. Read up on the procedures you're going to perform. Watch a video! Coming in with some

basics helps you to learn and get the most out of every encounter.

Be dependable.

If you want to be a rock star, be someone people can depend on. Follow up on your patients. Keep a list of things you need to do. Make sure you complete your clinic notes, and that they make sense. Do your dictations. Enter your cases in the case log system. These are all little things, but if people know you do the little things right, they'll also trust you to do the big things.

Be nice.

The relationships with the people we work with can either make work fun or unbearable. Treat everyone with respect, and acknowledge that patient care is a team effort. Remember that your co-residents are not your competitors. You need to work together, help each other and learn from one another. Lead your junior residents and med students by example, and look out for each other's well-being.



Dr. Winokur and Isha Cheela, DO, celebrating after a long day of surgery with their cornea fellows Ksenia Goman, MD, and Ella Yu, MD.

Remember that the patient always comes first.

Patients trust us with their greatest possession — their children, their health, their sight. Do whatever it takes to do right by them. When caring for patients, sometimes we have to make a choice between something that's easy for us to do and something that's hard for us to do. Usually, it's the more difficult thing that's the right thing to do. Never cut corners.

It's not impossible to shine! In fact, it's easier when you're surrounded by other rock stars. Work together with your co-residents, form a supergroup and rock on!

Jules A. Winokur, MD, is a cornea specialist and associate professor at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell in Great Neck, N.Y. He is the 2023 president of the Association of University Professors of Ophthalmology (AUPO) Program Directors Council.



From the Editor's Desk: Don't Delay. Opt In.

Welcome to ophthalmology and the American Academy of Ophthalmology!

You have picked the absolute best specialty, and we are excited to see how each of you develop your careers. So take a moment to step back, think about all you have accomplished and set your intentions on both the next six months and the next one to three years. Now, looking forward, don't forget that to make the most of your residency, you must **opt in**.

Opt in to the learning experiences provided every day through didactics and clinical and surgical rotations. **Opt in** to the opportunities presented to you by your residency program. And **opt in** to the Academy.

As a member in training, you have free access to the Academy and all of the many email communications that are especially important to YOs:

- *YO Info* provides information about practice management, coding and insurance questions and other relevant issues curated by and written for young ophthalmologists.
- *Washington Report Express* includes brief updates on activities of the Academy's Governmental Affairs division.
- *Academy Express* contains information about podcasts, surgical videos, journal article summaries and crucial Academy news.
- *EyeNet*[®] is the Academy's official magazine and the premier source of credible clinical information.
- *Practice Management Express* provides coding, billing and financial management information not only for YOs, but also the practice staff you work with.

To opt in to Academy communications, visit secure.aao.org/communications. Log in with your email and password if prompted. The communication consent page will display for you to check the consent box.

It's essential to sign up and stay informed not only about our organization, but also our esteemed specialty. Be sure to read the headlines and delve deeper into topics that interest you!

Evan Silverstein, MD, is the 2023 chair of the YO Info editorial board. He specializes in pediatric ophthalmology and serves as assistant professor and associate program director at Virginia Commonwealth University in Richmond, Va.



How to Decipher the Red Eye as a First-Year Resident

A red eye can be an elusive entity for first-year residents. Various pathologies can manifest as the red eye, and it is critical for residents to be able to ask the appropriate questions, perform a focused exam and discern which of the various diagnoses the patient may have.

Here are four common conditions that can cause a red eye.

1. Conjunctivitis

Conjunctivitis is defined as inflammation of the conjunctival tissue. It is associated with the development of conjunctival follicles or papillae, which can help elucidate the etiology of conjunctivitis. Papillae form when the conjunctival epithelium covers fibrovascular cores with blood vessels and the conjunctival stroma contains eosinophils, lymphocytes and plasma cells. Follicles form when the conjunctival epithelium covers lymphoid follicles and is surrounded by stromal lymphocytes and plasma cells.

Always turn the upper eyelid inside out to see if follicles

or papillae are present on the upper eyelid palpebral conjunctiva. Always pull down the lower eyelid to assess for similar findings in the lower eyelid palpebral conjunctiva. Sometimes there can be associated swelling of the bulbar conjunctiva, known as conjunctival chemosis.

Follicular conjunctivitis can be driven by viral (i.e., adenoviral, herpetic, molluscum), chlamydial or allergic etiologies; severe blepharitis and/or demodex blepharitis can also cause an associated conjunctivitis. Papillary conjunctivitis can be allergy related (i.e., atopic or vernal conjunctivitis) but can also be caused by foreign bodies in the eye, like contact lenses or sutures, or by bacterial infections.

It is important to distinguish if the conjunctivitis is acute or chronic, as some cases of chronic conjunctivitis can be caused by atypical infections or be a rare manifestation of conjunctival malignancy. Bacterial conjunctivitis tends to be associated with purulent discharge, while viral and allergic conjunctivitis can have clearer mucoid discharge.

Treatment for conjunctivitis is largely supportive (i.e., artificial tears, cool compresses); however, systemic and/or topical antibiotics may be needed for bacterial

conjunctivitis, and topical and/or oral antihistamines may be needed for allergic cases. If a foreign body in the eye is the cause, it needs to be removed.

2. Keratitis

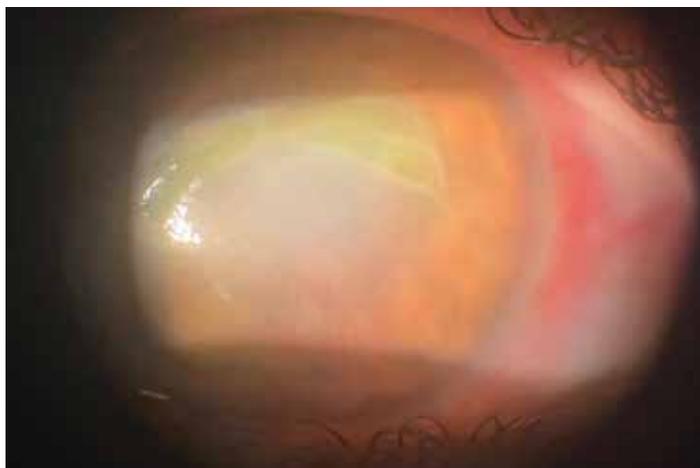
Various causes of keratitis can cause a red eye. Common causes include herpetic keratitis or corneal ulcers.

Ask patients about their history of eye trauma, contact lens wear with poor hygiene or recent eye surgery. Examine the eye carefully for conjunctival injection or ciliary flush, which is suggestive of intraocular inflammation. The focus of your findings in keratitis will be on the cornea. Look for dendrites or pseudodendrites with fluorescein staining suggestive of herpetic keratitis.

If an ulcer is suspected, you can see corneal infiltrates with associated epithelial defects; there can also be anterior chamber cell or hypopyon formation. In addition, there can at times be a follicular or papillary conjunctival reaction in cases of keratitis. In these scenarios, expedient corneal cultures and initiating topical antibiotics and/or topical/oral antivirals is critical for rehabilitation. Don't forget to check corneal sensation with a wisp of cotton before putting in numbing drops.



Slit-lamp photograph documenting a red eye with a new dendrite on the cornea secondary to herpesviral keratitis.



Slit-lamp photograph documenting an injected eye with a nonhealing epithelial defect superiorly with central haze and corneal neovascularization secondary to neurotrophic keratitis.

Images courtesy of Nandini Venkateswaran, MD

3. Uveitis

Patients with anterior uveitis typically present with a red eye and ciliary flush. Associated symptoms include eye pain, soreness, blurred vision and photophobia.

Check the cornea carefully for keratic precipitates or corneal edema. There will be cell and/or flare in the anterior chamber. The iris can show signs of nodules, atrophy or posterior synechiae depending on the etiology of the uveitic process. There can sometimes be associated spillover vitreous inflammation. In cases of posterior uveitis, the eye can also be red, but the majority of inflammation will be appreciated in the vitreous cavity and retinal tissues.

Unlike conjunctivitis, which will have a follicular/papillary reaction, uveitis will have only injection and usually no associated conjunctival papillae or follicles. Ask your patients about a history of autoimmune diseases that can cause uveitis (i.e., rheumatoid arthritis, sarcoidosis, lupus, etc.) and obtain relevant lab work as well.

4. Subconjunctival Hemorrhage

Subconjunctival hemorrhages are common and are a frequent cause of urgent patient visits to the office. These hemorrhages can occur spontaneously or as a result of eye-rubbing or exertional activity, causing a rupture of conjunctival blood vessels. Sometimes patients who have undergone recent eye surgery can also have subconjunctival hemorrhages associated with conjunctival manipulation or subconjunctival injections.

Patients who are on blood thinners may be more predisposed. It is important to ask patients about a history of high blood pressure or a blood coagulation disorder, as these disorders can be associated with recurrent subconjunctival hemorrhages. When examining your patient, redness will typically be appreciated on the bulbar conjunctiva and can be focal or diffuse. The palpebral conjunctiva tends to be unaffected, and there is no associated intraocular inflammation. Ensure there are no conjunctival lacerations or signs of ocular injury causing the hemorrhage.

Advise patients that these hemorrhages are self-limited and will resolve with no treatment over 10 to 14 days (about 2 weeks). Artificial tears can be used to lubricate the eyes in most cases if there is any associated eye irritation.

As a first-year resident, hone in on which part of the eye is red. This will help you easily distinguish the cause and initiate appropriate treatment. These conditions can be common, and if you can be thoughtful in your approach, you will shine when encountering a red eye.

Nandini Venkateswaran, MD, is a cataract, cornea and refractive surgeon at Massachusetts Eye and Ear Infirmary in Waltham, Mass. She is also a clinical instructor of ophthalmology at Harvard Medical School.



3 Steps to Interpret OCTs

Optical coherence tomography (OCT) enables ophthalmologists to measure retina thickness on a cellular level and has revolutionized the way we practice ophthalmology.

Considering how ubiquitous this technology is, it's essential that you are able to interpret these 3D reconstructions. But have no fear! By practicing these three steps, you will be better able to accurately (and comfortably) use OCT to your clinical advantage!

1. Know what's normal.

Familiarize yourself with how a normal OCT looks. There should be nine layers of the retina itself, alternating in light and dark bands. We also want to consider the vitreoretinal interface above and the choroid below. The foveal depression should be symmetric and centrally located in the image.

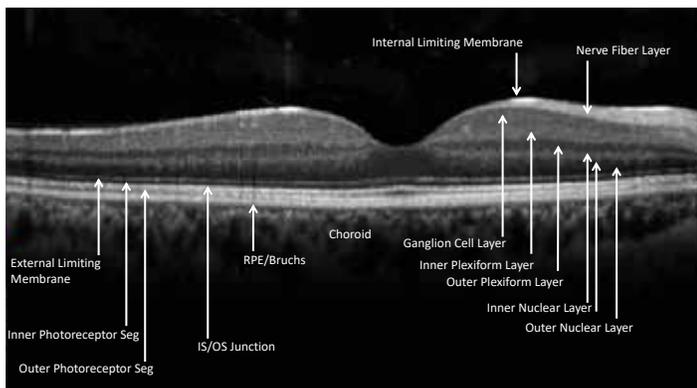
Layers

Inner retina

- Nerve fiber layer
- Ganglion cell layer
- Inner plexiform layer
- Inner nuclear layer

Outer retina

- Outer plexiform layer
- Outer nuclear layer
- External limiting membrane
- Photoreceptor IS/OS (inner segment/outer segment)
- Retinal pigment epithelium



Normal OCT

2. Locate and describe the pathology.

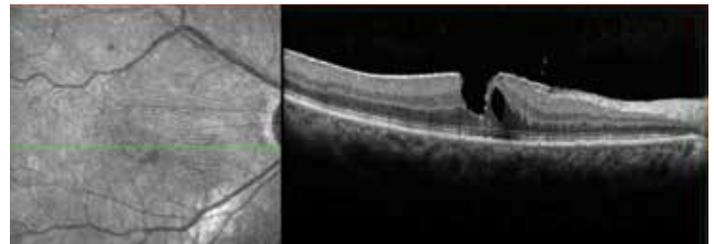
Now that you know the layers, figure out where the pathology is, and try to describe it. Generally speaking, pathology will be in the vitreoretinal interface, inner retina, outer retina, Bruch's membrane/retinal pigment epithelium (RPE) layer or choroid.

3. Correlate clinically and make the diagnosis.

We often joke about the "clinical correlation required" comment on radiology reads; however, considering the clinical information at hand can often give you important tips to help with the diagnosis. Here are some guidelines to help you with your diagnosis:

Epi-retinal membrane

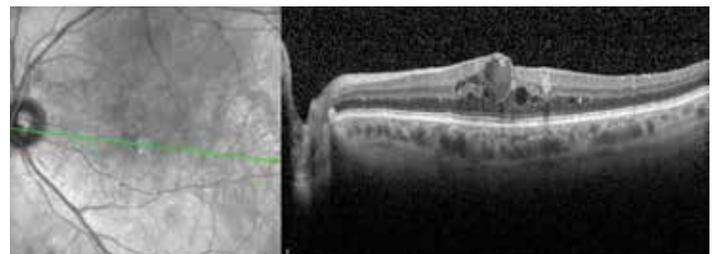
- **Locate pathology:** Above the internal limiting membrane (ILM), so in the vitreoretinal interface
- **Describe pathology:** Hyperreflective membrane causing traction on the inner surface of the retina
- **Correlate clinically:** Older patient, often with a posterior vitreous detachment (PVD), describing central distortion



Epiretinal membrane with lamellar hole

Diabetic macular edema

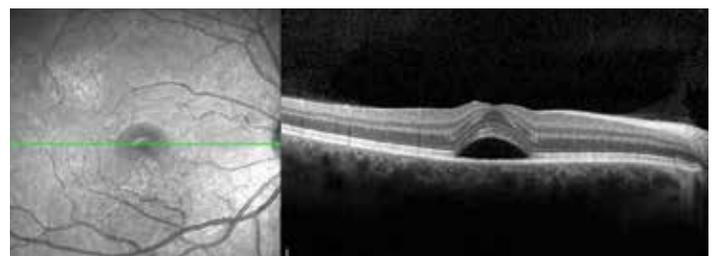
- **Locate pathology:** In the inner nuclear layer (INL) and outer plexiform layer (OPL)
- **Describe pathology:** Hyporeflective cysts
- **Correlate clinically:** Diabetic patient, central vision blurry, often worse with worsened diabetic retinopathy



Diabetic macular edema

Central serous retinopathy

- **Locate pathology:** Outer retina, under RPE
- **Describe pathology:** Hyporeflective serous fluid
- **Correlate clinically:** Typically younger male, high-strung patient under stress or taking steroid medications or hormones

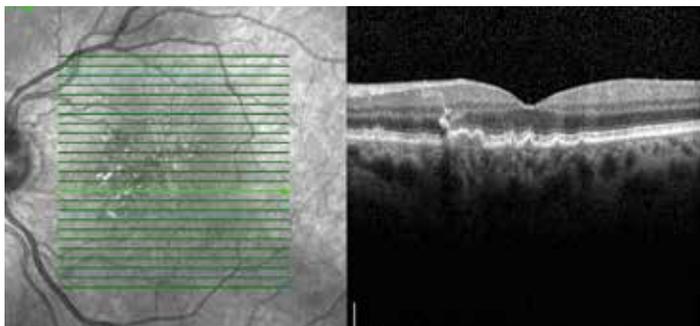


Central serous retinopathy

Drusen/Age-related macular degeneration (AMD)

- **Locate pathology:** Outer retina, Bruch's/RPE
- **Describe pathology:** Hyperreflective bumps
- **Correlate clinically:** Usually older, fair-skinned patients, minimal or no symptoms

Remember, interpreting OCTs will get easier with a little practice, and you'll be able to treat your patients' glaucoma and other retinal conditions confidently and efficiently.



Age-related macular edema

Images courtesy of Jessica Randolph, MD

Jessica D. Randolph, MD, is a vitreoretinal surgeon in Richmond, Va. She has been on the YO Info editorial board since 2021.



4 Steps for a Perfect Ophthalmology Note

Consult and clinic notes are an important part of patient care, and it is crucial to complete these notes efficiently and effectively. Here are my suggestions for those who are just starting out.

1. Help convey the patient's story.

All notes need a documented "chief complaint" — why is the patient here? For the history of present illness (HPI), document what you feel is important: pertinent positives and negatives (guided by the chief complaint) are excellent to document.

You may have been told in the past that you need four elements of a "PQRST" history — but this is no longer a billing requirement (see tip No. 4). Stay focused on the patient's complaints and build your pertinent story.

2. Communicate your findings to other providers.

When someone reads your note, they scroll first to the assessment and plan. Consider formatting your note in APSO (assessment, plan, subjective, objective) order, putting the assessment and plan at the top of the note.

In your assessment, clearly indicate your diagnoses, additional workup and treatment recommendations. Do not just keep listing an updated plan for each day; summarize when appropriate.

DO NOT USE ACRONYMS. Each specialty has its own dictionary that is foreign to other specialties. Our "PVD" for a posterior vitreous detachment can easily be confused with peripheral vascular disease. Use the power of the electronic health records (EHR). You can still use your acronyms, but your EHR can transform it immediately into the fully spelled-out acronym. Now everyone can read and understand your notes.

3. Remind yourself of the details of the patient's course and treatment.

Use your notes to help you! You put a lot of thought into each patient encounter — don't let your hard work go to waste. Put down your thoughts to jog your memory. What is your goal intraocular pressure (IOP) for that patient? If their IOP does not come down, what is your planned next step? By clearly stating these in your notes, it makes your follow-up appointments go smoother and allows your subsequent documentation to be quicker.

4. Master your billing.

We bill based on what we do, and we use the EHR and notes to document what we do. There are two types of billing codes: eye visit codes and evaluation and management (E/M) codes.

Eye codes can only be used in outpatient clinics and are usually based on the number of exam elements: 3 to 11 exam elements for an intermediate eye code, and all 12 exam elements for a complete eye code. Visit the Academy's **cheat sheet for eye visit codes** to learn more.

Forgetting to document your confrontation visual field can drop your billing from a level 4 comprehensive code to a level 2 intermediate code.

E/M codes were revised for outpatient (2021) and inpatient (2023) to focus more on medical decision-making than counting note elements (like family and social history). There are certain billing "points" that you accumulate by documenting things you already do. Document which notes you reviewed to help obtain your HPI and if you received elements of the HPI from a person other than the patient (like a spouse). Record which labs and images you reviewed.

With good, clear and efficient documentation, everyone wins. And you get a perfect "10."

Evan Silverstein, MD



How to Maintain Your Passion

It is easy to become distracted by the demands of physician training and lose sight of the passions that we once pursued or enjoyed outside of work.

Extracurricular interests and hobbies are important for our own health, identity and joy and even our patients' health. But it can be difficult to find time to pursue passions outside of work due to long hours, high stress, physical and emotional fatigue and the constantly changing health care landscape.

Why Keeping Your Passions Alive Matters

First and foremost, maintaining your passions can improve your overall happiness and well-being. Pursuing activities outside of work that you enjoy provides a sense of fulfillment and helps to manage stress. When you feel fulfilled in your personal life, you are more likely to be present and engaged at work, which can lead to better patient care and outcomes.

Additionally, keeping in touch with extracurricular interests can enhance or complement your work as a physician. These hobbies can increase hand-eye coordination, communication skills and diverse perspectives that you can apply to your clinical and surgical practice.

For example, the study of photography may help to hone your observation skills and develop a keen eye for detail. If you are a short-story writer, you may use this skill to help narrate the human experience as a patient, further creating a deep connection with your own patients.

3 Tips for Nurturing Your Passions

1. Schedule time for hobbies. In addition to maintaining healthy sleep and exercise habits, remember to schedule weekly time in your calendar for hobbies, just as you would for any other important task. Spend time doing something you enjoy, whether it's playing a team sport, attending a performance, perfecting your craft beer or practicing a musical instrument.

2. Get creative. Sometimes, your past extracurriculars seem difficult to pursue in a new city or small apartment or because of your new work hours. But if you love to travel and can't take long trips, find a new way to explore your local area instead. Look for new restaurants, parks or cultural events in your community to keep things fresh. Another way to be creative is to align your passions with your work, such as global health, community outreach or helping create a pipeline of students interested in ophthalmology or medicine.

3. Share your passions with others. Finding shared interests among colleagues can lead to new collaborations, ideas or even adventures. It's also a great way to build lifelong friendships enriched through extracurricular activities.

Finding ways to sustain and incorporate passion in your daily routine or work is essential for your well-being as a physician and for your patients' benefit. By scheduling regular time for your hobbies, getting creative with your interests and sharing your joys with others, you can keep your passions alive and thriving.

Always remember that taking care of yourself is the essential key to being a great physician.



Dr. Law participates in one of the many YO Lounge events focused on wellness, during the Academy's annual meeting.

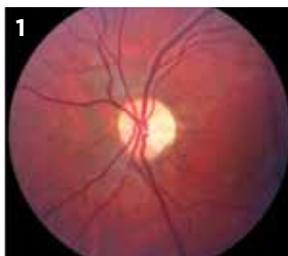
Janice C. Law, MD, is an associate professor and vice chair of education at the Vanderbilt Eye Institute in Nashville, Tenn. She served as chair of the Academy's YO Committee from 2019 to 2022.



Essentials for Top 10 Eye Emergencies

When it comes to an eye emergency, taking quick action is essential. Time is key to preserve vision, so work quickly!

From ischemic optic neuropathy to acute third-nerve palsy — familiarize yourself with these eye emergencies and their diagnosis and treatment.



1. Ischemic Optic Neuropathy

Symptoms: Sudden, painless vision loss and disc pallor. Can be preceded by episodes of transient vision loss, headache or jaw claudication.

Pro tip: Get an erythrocyte sedimentation rate/C-reactive protein (ESR/CRP) to rule out giant-cell arteritis for anyone over 55 with concerning signs and symptoms.

2. Retrobulbar Hemorrhage



Symptoms: Orbital or postoperative trauma. Severe pain, vision loss, inability to open eyelids and proptosis.

Pro tip: Urgent canthotomy/cantholysis. Practice in your wet lab.

3. Open Globe

Symptoms: History of trauma, fall or sharp object to globe. Vision loss, pain and gush of fluid from eye.

Pro tip: Obtain a computed tomography (CT) scan of the brain and orbits (1-mm sections) to rule out intraocular foreign body. And get patients ready for emergent surgery — tell them to fast (NPO)!



4. Acute Third-Nerve Palsy

Symptoms: Ptosis, diplopia, dilated pupil and an eye that is down and out.

Pro tip: Get a contrast-enhanced CT scan or computed tomography angiography (CTA) MRI/f with gadolinium to evaluate for an aneurysm of the posterior communicating artery.



5. Orbital Cellulitis

Symptoms: Pain, proptosis/limitation of extraocular movements, decreased vision, eyelid/periorbital swelling and tightness.

Pro tip: Assess for signs of optic neuropathy. Obtain a CT scan to assess for sinusitis.



6. Endophthalmitis

Symptoms: History of trauma or surgery. Pain, vision loss, hypopyon and vitritis.

Pro tip: Arrange for an anterior chamber (AC) or vitreous tap and injection of intravitreal antibiotics (often vancomycin and ceftazidime).



7. Carotid-Cavernous Fistula

Symptoms: History of blunt head trauma, arterialization of conjunctival vessels and proptosis.

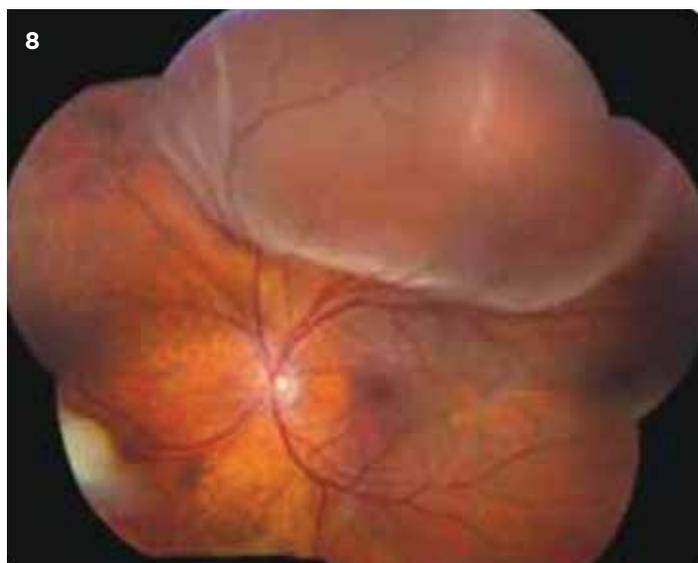
Pro tip: Think of a low-flow carotid cavernous fistula (CCF) in an elderly patient with hypertension who has been treated for chronic, unilateral conjunctivitis for an extended period of time. Get a CT scan with contrast (which will show a dilated superior ophthalmic vein).



8. Macula-on Retinal Detachment

Symptoms: History of flashes, floaters and curtains.

Pro tip: Dilate both eyes. Rule out detachment or tear in the fellow eye.



9. Corneal Ulcer

Symptoms: Moderate-to-severe eye pain, acute contact lens intolerance and decreased vision.

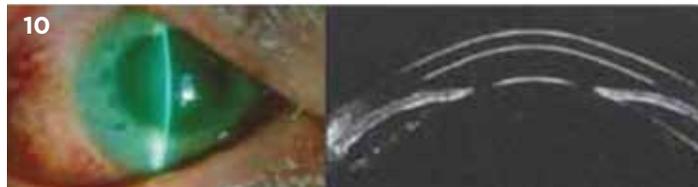
Pro tip: Ask about contact lenses and culture contact lenses and/or the case if possible. Consider fungal keratitis for any traumatic corneal injury, especially from plant or vegetable material. Obtain cultures.



10. Acute Angle-Closure Glaucoma

Symptoms: Painful red eye with mid-dilated pupil and corneal edema, nausea and vomiting.

Pro tip: Compression gonioscopy may open the angle.



Cherie A. Fathy, MD, is a cornea specialist in Washington, D.C. She joined the YO Info editorial board in 2022.



Residency vs. Parenting: Is It Possible to Do Both?

The idea of having children and parenting during medical training is daunting. However, due to the length of medical, residency and fellowship training, it can also be challenging to delay starting a family until after training is completed.

To give you more insight, we compiled some great perspectives from three young ophthalmologists who had children during different stages of training: Fran Wu, MD, a pediatric ophthalmologist practicing in Libya; Alison Early, MD, a comprehensive ophthalmologist in Ohio; and Brad Henriksen, MD, a pediatric ophthalmologist in Utah.

At what point during training did you have children?

Dr. Wu: My first child was born right at the beginning of my MPH year (fourth year of medical school), and my second child was born during my intern year, three months before I moved to my ophthalmology residency program.

Dr. Early: My first child was born in March of my PGY-4 year, when my husband was living one and a half hours away and in his first year of practice as an orthopedic surgeon! Twenty months later, we welcomed our second child. During my second pregnancy, I was in my first year of practice and also passed my written and oral board exams to become board certified! Our third child, another girl, was born 21 months after that while I was in my third year of practice.

Dr. Henriksen: We had our first child during my second year of medical school. Our second child was born during my intern year, and our third child was born in the middle of my PGY-4 year.



(Left) Dr. Henriksen pictured with his youngest daughter, practicing pediatric exam skills and (Right) giving her a turn with his pagers.

What effect did this have on you during training?

Dr. Wu: The MPH year was flexible, and fortunately most classes were available online. But it was still a challenge. When my son was almost a year old, I was doing residency interviews. I gave up on my original goal of one year without formula because pumping [milk] while traveling around the country proved too challenging.

Dr. Early: Since I was nearly at the end of my training, it did not have a significant impact on my learning or clinical experience. I did have to make up several of the weeks I took off for my (short) maternity leave, so I caught up on my surgery numbers by the time I finished. On my first Mother's Day, I was on call and had to leave in the morning to do a ruptured globe repair. It was hard at the time, but we got through it!

Dr. Henriksen: With our first child during medical school, I received a total of two days off to be with my spouse and new baby. It was difficult with a premature infant and having to balance time outside of class between the NICU and studying. My intern year program granted me one week of paternity leave. My wife delivered in the hospital where I was working, which made it easier for me to come to the birth!



(Left) Dr. Early in pregnancy with her second child during first year of attending-hood. (Right) Her youngest daughter in costume.

How was having a child handled by your training program with time off, call coverage, surgical training, etc.?

Dr. Wu: My internship program had a four-week quality improvement project rotation, during which we were not required to be in the hospital. They arranged this particular rotation to start around my due date with my second child, and I also tacked on two weeks of vacation for the year to the end of this rotation, giving me six weeks of time [off] after the baby was born. They gave me the option of taking more time off, but I would have had to delay finishing the year and delay starting ophthalmology residency, so I decided against it.

Dr. Early: My child was born in 2018, which was before the ACGME [Accreditation Council for Graduate Medical Education] policy changed to allow all residents six weeks of parental leave without penalty. I did take six weeks off but had to make up three of them in July, so I didn't



finish at the same time as my classmates. I'm so happy that current and future residents don't have to do the same thing! Six weeks after a traumatic delivery is not enough time. We routinely ask patients to "take it easy" for extended periods of time after much more minor surgeries, yet for some reason we don't look at childbirth in the same way.

Dr. Henriksen: During residency I worked closely with my program director to plan my rotation schedule so that my highest volume surgical rotations would not coincide with the expected delivery date of our child. Fortunately, even with a preterm delivery, this worked out, and I was able to finish residency without any concern for surgical numbers.



(Left) Dr. Wu's family congratulates her on finishing residency. (Right) She receives an "eye exam" from her son after getting home from the hospital.

What challenges did you face as a parent during residency and fellowship training?

Dr. Wu: When I first entered ophthalmology residency, I was the only female in the program with children. Even though my program was very supportive, I did not want to seem like I was asking for favors for having a toddler and infant at home. Having an infant had its unique challenges: Figuring out where and when to pump in the middle of clinic and during long call weekends was tricky. Waking up to feed an infant every night in addition to having an exhausting call schedule was tough.

Dr. Early: My circumstances were challenging in determining when to start trying for a baby. I remember having a conversation with my husband at the beginning of my PGY-2 year that we felt ready. But very soon after I realized I had SO much to learn and was going to be extremely busy for the next three years. We also knew we were going to have some time spent living apart due to our respective training, so we ultimately deferred [having a baby] at that time. We were very fortunate that I easily got pregnant about two years later when we decided we were ready for real.

Dr. Henriksen: I think one the biggest challenges with parenting during training is managing time. I had to come to an understanding that I would not be present for all of

the special moments in my young child's early years. There were weeks and sometimes months when a true balance of family and work life was not realistic. I did my best to be present whenever possible by getting up early to study or work on notes, seeing consults over lunch hour or working later in the evenings after bedtimes.

How did you handle childcare during training?

Dr. Wu: My husband has always worked full time, and we did not live near family for most of training, so finding good childcare always seemed like a miracle. Our best childcare arrangement was a combination of both daycare and a part-time nanny who would pick the kids up from daycare and continue caring for them into the evening.

Dr. Early: Grandmas! Both of our moms were overjoyed to watch our little guy for the last few months of my residency training. They alternated weeks and took great care of him. We did know ahead of time that this would be an option for us, which definitely helped weigh in favor of starting our family when we did.

Dr. Henriksen: We lived near family during medical school and internship, so grandparents played a big role. During residency my wife decreased her work to part time, and we relied on a close network of friends from church and our community to help with childcare.

Any advice you have for residents or fellows considering having children during training?

Dr. Wu: If having children is important to you, don't put it off for the sake of your career. There is rarely a convenient time to have children. In describing the hardships of parenting during training, I didn't talk enough about the great joy I have in my children and what a gift they are to me. The struggle is real, but it's worth it.

Dr. Early: Don't wait! Female physician infertility rates are dramatically higher than those of the general population. There are ways to make it work. Connecting with other professional women and physicians through social media has been an incredible support system. Hearing stories of women a generation before me, and how they navigated a system that was much less friendly to motherhood, is incredibly moving to me.

Dr. Henriksen: Don't be afraid to start a family during training — while it is challenging, it is also very rewarding!

Alison D. Early, MD, is a cataract and refractive surgeon at the Cincinnati Eye Institute in Cincinnati. **Fran L. Wu, MD**, is a pediatric ophthalmologist practicing in Libya. **Bradley S. Henriksen, MD**, is a pediatric ophthalmologist at the Excel Eye Center in Provo, Utah. He joined the YO Info editorial board in 2022.



4 Tips to Maximize Your Wet Lab Practice

Ophthalmic surgery is a beautiful, elegant and delicate way to improve a patient's vision and quality of life.

You have four years to learn these skills, but before you operate on real human eyes, it's wise to start out practicing in the wet lab. To get the most out of your wet lab practice, try these four high-yield tips.

1. Carve out time in your busy schedule.

Residency is busy. But you'll only utilize the wet lab if you are mindful to block off a little downtime to practice surgical skills on a regular basis. Don't stress about hours of suture practice; even 30 minutes of phaco or corneal wound creation can go a long way to developing muscle memory, comfort with tissue manipulation and familiarity with the instruments.

2. Get to know pig eyes, plastics eyes and virtual reality.

We are lucky to be surrounded by surgical tools to practice with. Pig eyes can provide realistic corneal and lens tissue to operate on, and many have retinal detachments to buckle! Additionally, a few companies create realistic fake eye models on which to practice various ocular techniques.

Lastly, many residency programs also have virtual reality surgery simulators for high-yield practice. The Eyesi, for example, is programmed with a training curriculum aimed at minimizing tremor, improving efficiency and avoiding tissue damage.

3. Find a surgical mentor to show you the ropes.

You don't always have to practice alone. Whether you're working on a specific skill or perfecting a new technique, reach out to a more senior resident, fellow or attending to help guide you. They will be ready and willing to lend a helping hand. And they may actually be eager to provide specific tips and tricks in the wet lab to help you improve your surgical skills.

4. Practice surgical techniques with the attending you plan to operate with.

So, you're about to operate with one of the main cataract surgical teachers at your program in the coming weeks? Instead of getting nervous, ask them for their guidance in the wet lab. Each attending you operate with in residency will have unique approaches to surgery, and having them show you their particular quirks outside the OR can help them gain confidence in your skills.

Showing the attending how motivated you are to master surgical skills can also likely increase the likelihood that

a few steps of the surgery will be handed over to you during real patient cases.

Wet labs are a safe and effective way to hone your surgical technique before you start improving the vision of real patients. Making the most of the tools available to you outside the OR can maximize your surgical skills for when it's your turn to take the reins during surgery. Besides, at least you will have complete control of the wet lab's soundtrack!

Grayson W. Armstrong, MD, MPH, is an instructor in ophthalmology and associate director of medical student education at Harvard Medical School. He joined the YO Info editorial board in 2022.



Meet My Veteran and My Reason for Advocating

Army staff sergeant Juan Gonzalez served his country for 11 years, until combat-sustained injuries sidelined him while serving overseas in Afghanistan. His dreams of a full military career climbing the ranks vanquished when he was diagnosed with traumatic brain injury, PTSD and permanent injury to his lower back, rendering him unable to physically serve anymore. These days he fights a different kind of war, the kind that only stay-at-home dads understand. Raising our two sons brings fulfillment and joy along with challenges. He is my right hand, with boots on the ground, handling these enemy combatants — all while maintaining the mantra in our house that “we do not



U.S. Army Staff Sgt. Juan Gonzalez was injured while serving in Afghanistan.

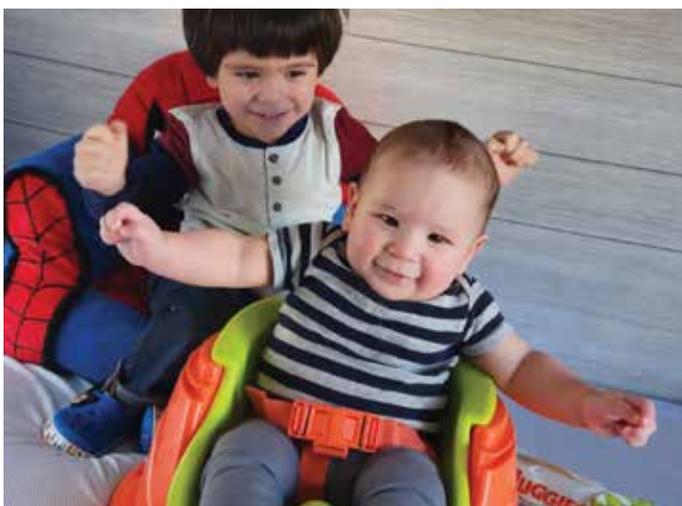


negotiate with terrorists.” Most battles are won after a much-needed nap, bottle or box of animal crackers and mutually agreed-upon Disney movie.

Growing up in El Paso, Tex., home of the Fort Bliss military base (the largest Army Installation in the U.S. Army Command), has given me a visible awareness



Staff Sgt. Gonzalez



Staff Sgt. Gonzalez and Dr. Alvarez care for their two young children, Kai and Niko.

of our military and appreciation for what they do. My medical education was richly enhanced by the wide range of patient experiences and teaching I received, most importantly at Veteran Association (VA) hospitals and medical clinics. It was one such VA rotation during my residency program that not only allowed me to hone my surgical skills performing cataract surgery, but also brought us together serendipitously. One month before I started my rotation in the VA ophthalmology clinic, my future husband also found himself as a medical support assistant (MSA) in the eye clinic. Through access to VA-sponsored vocational rehab, he was taking college courses in the medical field and was also given the opportunity to complete a work study program at the VA.

I have watched from the passenger seat as he navigates the VA medical system as a patient, and the challenges he experiences. While the VA system in the past has received a bad rap for poor quality of care, many things have changed to dramatically improve these deficiencies.

That’s why I was shocked to learn about the VA’s Federal Supremacy Project, which effectively removes language regarding safety concerns and opens the doors for optometrists to perform eye surgery.

Why is this worrisome? Optometrists lack the adequate background medical training, the years of necessary supervision performing eye surgeries and the experiential knowledge of how to handle any complications that may arise — not to mention the lack of oversight or accountability when reporting possible complications.

As an ocular oncologist, I’m burdened by the concern that an optometrist without surgical training could pick up a scalpel and remove an ocular tumor, when they:

- **Lack the years of knowledge** needed to understand how to excise such a lesion correctly in order to prevent tumor seeding,
- **Do not possess sufficient expertise** on recommendations for metastatic imaging scans and appropriate next steps like adjuvant chemotherapy, immunotherapy and/or radiation therapy and
- **Don’t have a full understanding** of how these gaps in knowledge and expertise could lead to fatal complications.



Dr. Alvarez, right, advocates on the U.S. Department of Veterans Affairs’ national standards of practice because of her husband, Staff Sgt. Gonzalez.

I urge you as physicians to remember “your veterans,” the patients you have met, who have trusted you to be part of their care. Be their advocate and their voice. As surgeons we know the rigors that go into surgical training and the great responsibility we must bear as we operate and perform procedures that could alter the quality of life for our patients. We have a unique perspective, and often our legislators need input from someone with the medical background or insight we have.

Being an advocate starts locally at the state level, by staying informed on the issues at hand, getting to know your local representatives and, most importantly, joining your state ophthalmology society. Being connected allows you to show up when given the opportunity to share your experiences and professional opinion. We have a critical opportunity to educate the public and make them aware of the harm that could arise from allowing nonsurgeons to perform laser procedures, injections and even scalpel surgery on our veterans. Our service members deserve the highest quality of care possible, and we can help advocate for that.

Erica R. Alvarez, MD, is an ocular oncologist and retina specialist in El Paso, Tex. She joined the YO Advocacy subcommittee in 2023.



The 8-Point Eye Exam

The foundation of an informative ophthalmic exam is to be systematic, organized and thorough.

But how do you make sure you cover your bases, while adopting time-tested techniques and tools? Here are eight tips to make sure you perform the best exam and provide patients with a positive experience.

1. Check Visual Acuity

- In the clinic, visual acuity is measured monocularly using a distance chart. In a consult setting, near vision is assessed using a near card. Ensure good illumination on the vision chart.
- Before starting, ask the patient to wear the appropriate correction. Always have a pinhole occluder because it may improve vision impacted by uncorrected refractive error.
- Ask the patient to read the smallest line possible. If they are unable to read the largest optotype, then check if the patient can count fingers (CF), see hand motion (HM) or perceive light (LP). If you're working with a small child who can't talk, assess vision by describing whether the eye is central, steady or maintained (CSM).

Central: The corneal light reflex is in the center of the pupil.

Steady: Test fixation on a moving light source.

Maintained: Test if fixation is maintained with the viewing eye when a previously occluded eye is uncovered.

2. Examine Pupils

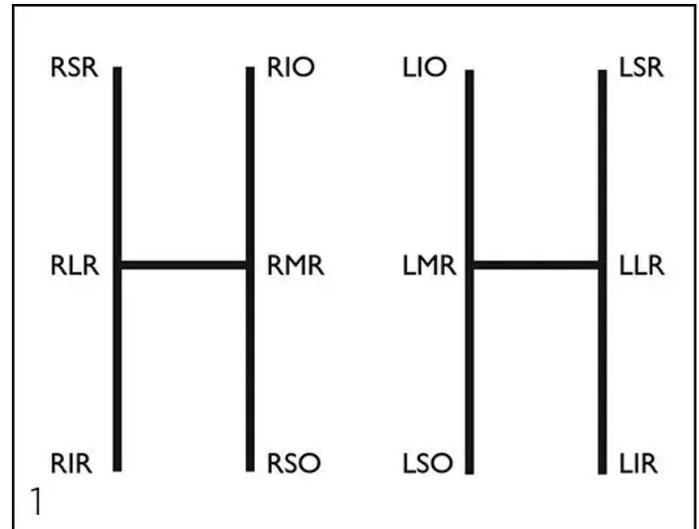
- Evaluate both pupils in ambient light to check for asymmetry.
- Have the patient fixate on a distant target to minimize accommodation.
- Check if both eyes react equally to bright light by constricting and dim light by dilating.
- Check for a relative afferent pupillary defect with a swinging flashlight test.

3. Assess Extraocular Motility and Alignment

- Ask the patient to look in the six cardinal positions of gaze and note any differences between the two eyes (see Figure 1). Test binocularly to assess versions and monocularly to assess ductions.
- Use the cover/uncover test to assess for heterotropia and alternate the cover test to assess for the total amount of deviation. This amount minus any heterotropia is the amount of heterophoria.

4. Measure Intraocular Pressure

- Goldmann applanation tonometry is the gold standard and should be used whenever possible. If unavailable,



Tono-Pen tonometry may be used. A rebound tonometer (e.g., iCare) is the best option for examining children.

- Avoid placing pressure on the globe when holding the patient's eyelids open to avoid falsely elevating the measurements.
- If a ruptured globe is suspected, avoid checking intraocular pressure.

5. Check Confrontation Visual Fields

- Assess each quadrant monocularly by having the patient count the number of fingers that you hold up. If acuity is particularly poor, have the patient note the presence of light.

6. Do an External Exam

- Start by assessing the eyelids, eyebrows and midface. Note any facial asymmetry. The position of the brows is assessed relative to the superior orbital rim. Midface is evaluated by presence of prominence or hypoplasia.
- Check for globe dystopia, exophthalmos or enophthalmos.
- Examine the periorbital region for lesions that may require a biopsy. Check the eyelid position by measuring the margin-to-reflex distance. Assess for lagophthalmos. Perform a complete cranial nerve exam for patients with neurological symptoms.

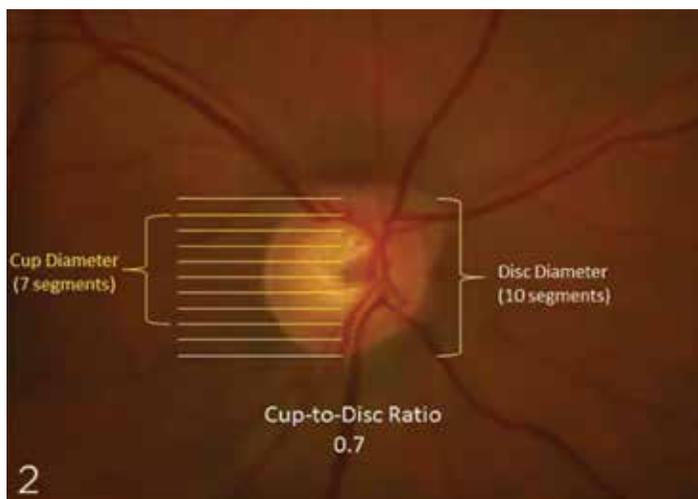
7. Do a Slit-Lamp Exam

- Start anterior to posterior with the lids, lashes and lacrimal system.
- Next, evaluate the conjunctiva and sclera for injection, chemosis and unusual lesions.
- Then evaluate the anterior and posterior chambers for depth and presence of cell, flare or heme.
- Lastly, evaluate the lens.



8. Perform a Fundoscopic Exam

- Assess the optic nerve's cup-to-disc ratio. Check for thinning, pallor or elevation (see Figure 2).
- Evaluate the macula for a foveal light reflex, drusen, edema or exudates.
- Next evaluate the vessels' course and caliber.
- Finally, evaluate the peripheral retina for tears, holes, lesions or pigmentary changes.
- At the slit lamp, variations of a 90D or 78D lens can provide a magnified view to assess subtle changes of the nerve, vessels and macula. 20D or 28D lenses are used to assess peripheral retinal pathology and provide a larger dynamic field of view.



Duaa Sharfi, MD, is a comprehensive ophthalmologist and completed her fellowship in global ophthalmology at the Emory University School of Medicine in Atlanta. She joined the YO International subcommittee in 2023.



Top 11 Educational and Media Resources Every Ophthalmology Resident Should Follow

For ophthalmology residents looking to expand their knowledge outside of the traditional classroom and gain up-to-date insights into the latest developments within the field, there are many valuable resources. The following resources provide important perspectives related to clinical education, technological innovations, industry and practice trends as well as networking and career advancement opportunities for young ophthalmologists.

Here are the top 11 best ophthalmology video, podcast and social media channels to follow, plus a few live opportunities that will enhance your surgical knowledge.

Experts InSight Podcast (Academy) — Hosts Jay Sridhar, MD, Amanda Redfern, MD, Ben Young, MD, and Andrew Pouw, MD, discuss practice pearls with subspecialists across ophthalmology every other Thursday. Topics range from summarizing major research studies to providing surgical and medical updates, emphasizing practical tips for improving both patient care and physician wellness.

Ophthalmology® Journal Podcast (Academy) — The official podcast of the “blue journal” dives deep into research articles and editorials from the Academy’s journal family: *Ophthalmology*, *Ophthalmology® Retina*, *Ophthalmology® Glaucoma* and *Ophthalmology® Science*. The rotating co-hosts interview authors and editors about their groundbreaking work every other Thursday.

Ophthalmology Quicksand Chronicles Podcast (American Society of Cataract and Refractive Surgery) — Hosted by Nicole Fram, MD, and Elizabeth Yeu, MD, this podcast is an honest and fun exploration of the pivotal moments that every surgeon will inevitably encounter. Guest experts delve into these “quicksand” moments and reflect on the nuances and lessons that ultimately help them evolve as surgeons.

Straight From the Cutter’s Mouth: A Retina Podcast — Hosted by Jay Sridhar, MD, this podcast features weekly interviews with guest retina experts about the latest research and treatment advancements in the vitreoretinal field.

Eyecelerator Meetings (Academy and ASCRS) — These live one-day events held prior to the Academy and ASCRS respective annual meetings provide insightful KOL-driven programming with the latest industry and investment trends impacting ophthalmology, including emerging company presentations. Each meeting provides valuable networking opportunities for those who are shaping the future of ophthalmology. **Eyecelerator.com**

Healio Podcasts — Healio is a popular online health care educational and news platform that creates several podcasts. “Eyeluminaries” hosted by John Hovanesian, MD, and Jim Mazzo explores the latest news and trends with visionaries in eye care. “Mend the Gap” is hosted by Cathleen McCabe, MD, Laura Periman, MD, Laura Enyedi, MD, and Dagny Zhu, MD, and explores disparities in health care and shares the achievements and challenges of women in ophthalmology today.

ONE® Network 1-Minute Videos (Academy) — The Academy’s 1-Minute Video series on the Ophthalmic News and Education Network® (ONE® Network) offers short, visual tips on complex surgical techniques and is free to members.

Cataract Coach — Created by Uday Devgan, MD, Cataract Coach features over 1,500 surgical videos demonstrating advanced techniques and surgical pearls in cataract

surgery shared by ophthalmologists from all over the world. A video has been uploaded every single day since its inception!

Ophthalmology Virtual Journal Club (Academy) — This member benefit features experts who break down a published paper's findings and implications from Academy journals. The live-streamed webinar is held every quarter and features slides and curated feeds of questions. Participants can post their questions on the chat or via a dedicated Q&A portion toward the end of the live stream. A recording is made available on aao.org for later viewing.

Out of the Blindspot — A podcast discussing all things neuro-ophthalmology, for help managing the blind spot in all of our patient encounters! Started by Ore-Ofe Adesina, MD, of UT Houston and McGovern Medical School.

Sight for Sore Eyes — This podcast is also hosted by Ore-Ofe Adesina, MD, and discusses issues of diversity, equity and inclusion in the field of ophthalmology with a minority perspective.

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