



2021

Resident Edition



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YO Info

THE YOUNG OPHTHALMOLOGIST'S NEWSLETTER

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

Wise Words of Welcome for New Residents

"Congratulations! Today is your day. You're off to great places! You're off and away!"



As a mother to a 3-year-old girl, I've spent a remarkable amount of time reading these delightful words from Dr. Seuss' *Oh, The Places You'll Go!* Although Dr. Seuss' books have come under recent criticism, the advice in *Oh, The Places You'll Go!* is still relevant. As a new ophthalmology resident, it applies so well to the journey you have each taken on.

I am grateful for the pearls of wisdom from this column's predecessors, all of which I heartily endorse: [Dr. Thomas A. Oetting](#) from the University of Iowa encourages you to read voraciously; [Dr. Shahzad I. Mian](#) from the University of Michigan sets you up for success as a surgeon; [Dr. I. Michael](#)

[Siatkowski](#) from the Dean McGee Eye Institute exhorts finding balance to avoid burnout; [Dr. Evan L. Waxman](#) from the University of Pittsburgh advises the resident "Cornea Waterboy" to embrace the role as a learner; [Dr. Laura K. Green](#) from the Krieger Eye Institute reminds you to ask questions and cultivate wonder. These articles are available on aao.org/yo/yo-info.

But as I read through each of these, I couldn't help but think that there's another thing. Something that is not often heard on the road to individual excellence. Allow me to let you in on this "secret."

It's not all about you.

Truly successful residents, the ones who faculty praise behind closed doors, the ones we go to great lengths to write glowing recommendations for, are not necessarily the ones who scored 99th

percentile on the OKAPs, or the ones who were the best surgeons out of the gate. Truly great residents are those who understand the fundamental idea that medicine is a profession of service — to patients, to the community, to the team.

These residents — the ones we all rave about — are the ones who pick up extra shifts when their co-resident has a family emergency, without any expectation that they will be paid back. They are the young doctors who take the time to sit down at eye level with the parents of a child with an eye injury, while the unfinished charts are building up outside. They are the courageous PGY-2s who, at the beginning of the pandemic, amidst so much uncertainty, step up to care for COVID-19 patients on the medicine floors. They are those already-too-busy chief residents who coordinate the much-needed resident happy hours in the dead of winter.

They are the residents who quietly organize the wet lab without being asked because they know that others will benefit from knowing where the instruments are. They are the ones who will hustle to see their post-ops even if it costs them an opportunity to participate in a novel surgery, because they know that surgical patients are particularly vulnerable and need to have their questions addressed by their trusted surgeon.

It's not all about you.

But wait, you might say. How can I handle everything I need to do and be that kind of resident and still stay sane and well?

There are no easy answers to this. But one thing to understand is that it's not that these residents work harder; it's that they approach the work with a spirit of generosity and gratitude and a growth mindset that allows their work to transcend themselves. I believe that this generosity you share with your patients and your colleagues is what cheers you on when you're, in Dr. Seuss' words, *"on your way up ... soar[ing] to high heights!"* And this generosity

will carry you through *"when you don't, because sometimes you won't."*

On those days, I lean on a second secret to thriving in this profession. It's a phrase that I first heard my husband use (he himself quoted someone else, although we are all fuzzy on the original source):

Forgive yourself every night. Recommit every morning.

It is the single best advice I have heard not only for being a physician, but also for all the worthwhile things in life: Forgive yourself every night. Recommit every morning.

Nearly 20 years after medical school, I still have those days. Those days when I walk out of the operating room feeling defeated, because despite our best efforts, the patient develops a complication. Those days when I feel like I'm a bad parent because after a full day taking care of patients, I have no more patience for my toddler who won't sleep through the night. Those days when I feel like a bad daughter because I have no more energy to care for my elderly mother with dementia. Those days when I couldn't draw up the courage to stand up to the patient who said he wasn't sure he should see a "Chinese doctor."

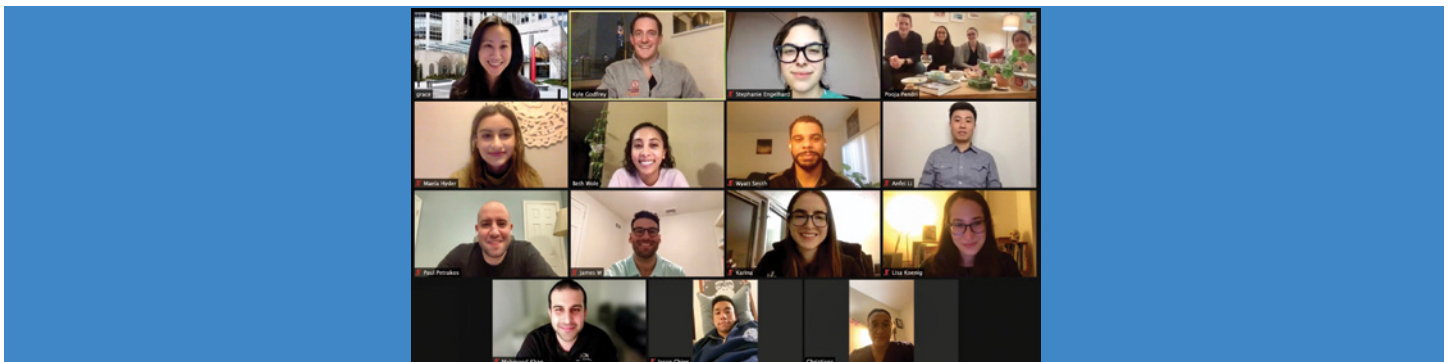
On those days, I take a deep breath, bathe in the pure squeals of my daughter's laughter and take a moment to forgive myself. And in the morning, I recommit.

I will leave you with the wise words of Dr. Seuss:

"And will you succeed? Yes! You will, indeed! (98 and ¾ percent guaranteed)."

And for that last 1.25%, remember to forgive yourself ... and to recommit to the incredible honor it is to be an ophthalmologist in service of others.

Grace Sun, MD, is president of the Association of University Professors of Ophthalmology (AUPO) Program Director's Council and the residency program director at New York-Presbyterian Hospital/Weill Cornell Medicine.



Dr. Sun meets with the Cornell residency program on Zoom. Top row (L- R): Drs. Grace Sun, Kyle Godfrey, Stephanie Engelhard, William Foulsham, Pooja Pendri, Brigitte Cole, Michelle Sun; Second row: Drs. Maela Hyder, Beth Wole, Wyatt Smith, Anfei Li; Third row: Drs. Paul Petrakos, James Winebrake, Karina Somohano, Lisa Koenig; Bottom row: Drs. Mahmood Khan, Jason Chien, Christiana Gandy.

From the Editor's Desk

The last year has been a whirlwind. For those of you entering your ophthalmology training, you only know medicine during a global pandemic. Those who served on the front lines got an up-close look at severely ill or dying patients — certainly more morbidity than you would expect to see after matching into ophthalmology.

So now what?

Well, the good news is that the world is turning a corner, and you just launched your training in a specialty that offers more support for its trainees than probably any other. Ophthalmology boasts one of the first American boards, as well as one of the first national medical societies, which counts more than 90% of U.S. ophthalmologists in its ranks — not to mention thousands of international members.



We're here for you. "We" includes the Academy's Young Ophthalmologist Committee along with its three subcommittees (*YO Info* editorial board, YO Advocacy subcommittee and YO International subcommittee) and loads of other physicians who volunteer their time to make your day and your Academy better and brighter.

You represent a cohort of physicians who have had to learn some of the most difficult lessons regarding patient care faster and sooner than most others. We are proud to welcome you to our ranks and call you one of us.

James G. Chelnis, MD
Chair, *YO Info* editorial board



James G. Chelnis, MD, is an oculoplastics surgeon in private practice in New York, N.Y.

To-Do List for the Young Ophthalmologist

The Academy offers educational programs, practice management resources and professional development catered to each level of training, from residency and fellowship to early practice and academia.

Be sure to bookmark both the Young Ophthalmologists and Residents landing pages on AAO.org: aao.org/yo and aao.org/residents.

Join the Academy Today

All physicians engaged in a full-time ophthalmology residency or fellowship training program in the United States or Canada are eligible for complimentary Academy membership for the duration of their training. Additionally, they are eligible to receive a complimentary American Academy of Ophthalmic Executives® (AAOE®) membership that provides resources for managing the business side of an ophthalmic practice (a \$299 value). Apply as a member in training at aao.org/join.

For the complete list of Academy and AAOE benefits, go to aao.org/benefits.

Enhance Your Clinical Education

- Learn from the no. 1 peer-reviewed journal in the specialty with your free subscription to the *Ophthalmology*® journal — aao.org/journals.
- Prepare for the Academy's Ophthalmic Knowledge Assessment Program (OKAP) exam, taken every year of residency, and for the American Board of Ophthalmology / ABO board exam with Ophthalmic Knowledge Flashcards — aao.org/flashcards.
- Get the latest industry news and clinical roundups with free access to *EyeNet*® Magazine — aao.org/eyenet.
- Get alerts for new clinical updates with the free AAO Ophthalmic Education App — aao.org/education-app.
- View surgical videos and images demonstrating basic skills — aao.org/browse-multimedia.
- Read the *Preferred Practice Pattern*® Guidelines — aao.org/ppp.
- Stock up on the latest clinical education, patient education and practice management materials with member pricing at the Academy Store — aao.org/store.

Be an Advocate

- Advocate for your patients and profession — aao.org/advocacy (Go to “Get Involved”).
- Read the latest news about the issues — aao.org/advocacy/eye-on-advocacy.
- Advocate locally — aao.org/statesociety.
- Support your state and federal advocacy efforts — aao.org/advocacy/action/give.
- Be part of the Academy’s Advocacy Ambassador Program and participate in the Mid-Year Forum, Congressional Advocacy Day and L.E.A.P. Forward in Washington, D.C., April 2022 — aao.org/mid-year-forum/advocacy-ambassador-program and aao.org/myf.

Meet Up at AAO 2021: Re/Create

- Get ready for AAO 2021, the Academy’s annual meeting in New Orleans (Nov. 12-15) and Subspecialty Day (Nov. 12-13) — aao.org/2021.
- Registration opens on June 16 for Academy members and July 7 for nonmembers — aao.org/registration.
- Attend special programming such as the Young Ophthalmologist (YO) Program and “Welcome to the Real World of Ophthalmology: Reality 101 for Residents and Fellows.”
- Visit the YO Lounge and attend daily educational and networking events.

Stay Connected With the Academy



- Receive advocacy updates on your mobile device by texting **EYEYO** to **51555**.
- Participate in the annual ONE® Network YO video competition — aao.org/yo-video.
- Read the latest in *YO Info*, the Academy’s monthly e-newsletter just for young ophthalmologists — aao.org/yo/yo-info.

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- Follow the Academy on Facebook, Twitter and Instagram — facebook.com/americanacademyofophthalmology, twitter.com/aao_ophth and instagram.com/aaoeye.
- Volunteer for the Academy — aao.org/yo/grow-in-leadership or aao.org/member-services/volunteer.

5 Pearls for Maximizing Your OR Experience

Becoming an excellent ocular surgeon is a critical part of residency training. For many of us, love of being in the operating room is the reason we chose this specialty.

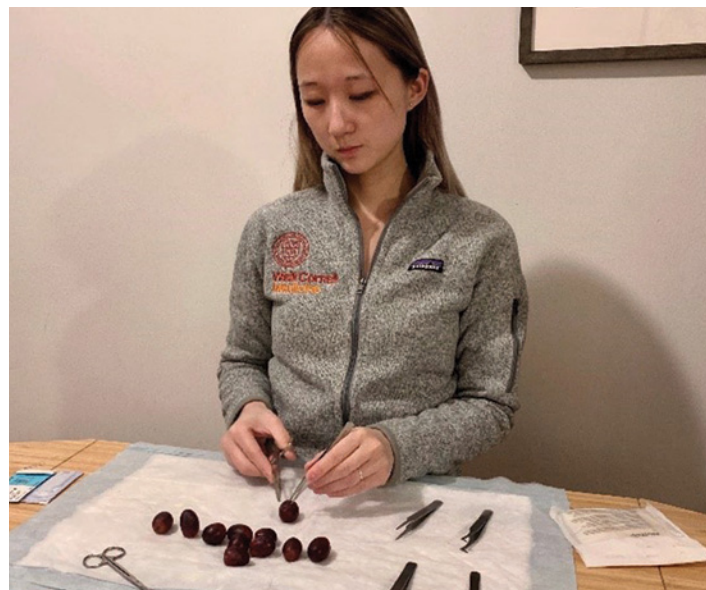
But eye surgery is also a high-risk endeavor in which even a miniscule slip of the hand can lead to disastrous outcomes. As a trainee, this can make the operating room a stressful place.

At the same time, your chances to operate during residency are finite — one of the unfortunate lessons of 2020 was that time in the OR is never guaranteed. So, when you do get the opportunity to perform surgery, it’s vital you demonstrate to your attendings that you take each opportunity seriously. And it’s critical you make the most of every single day spent in surgery.

These five tips will help you maximize each OR experience.

1. Practice, Practice, Practice

We have all heard the saying that practice makes perfect, but in residency you’ll probably hear this saying with a slight modification ... perfect practice makes perfect.



Melisaa Yuan shows how she practices her suturing skills with grapes.

In the beginning, ask one of your attendings, a fellow or even one of your seniors to sit with you and observe your sessions to teach you proper technique. Then check in periodically to make sure you aren’t picking up bad habits.

Many residencies also have a surgical simulator. Spend as much time on it as you can. Several studies have demonstrated that skills developed on the simulator translate to lower rate of complications and better efficiency in the OR.

Be sure to spend time in the wet lab to practice suturing. You can also practice at home with your loupes on grapes or tomatoes. Ask the scrub tech to hold on to any unused suture for you to practice with at a later point.

2. Come Prepared

Come to the OR with the mindset that you are the primary surgeon for every case that day.

Review the lens calculation sheets and choose a lens for every patient. In the beginning, ask your attendings to review their lens choices with you and have them walk you through their lens selection process.

Know each patient, think ahead and anticipate what complications you might encounter. Do they have pseudoexfoliation? If so, what is your plan for when you encounter loose zonules? Does the patient have a history of tamsulosin use? How will you manage their floppy iris?

Even if you are only assisting, this will make you a more active participant in each surgery.

3. Ask Questions

Ask your attending questions. Even with a surgery as seemingly standardized and stepwise as cataract surgery, you will find there are multitudinous, sometimes subtle and sometimes not-so-subtle variations in how the surgery is performed.

Also ask your attending to walk you through their thought process during each step of surgery. What are you focusing on during this stage? Why do you prefer this second instrument? What is your rationale for where you place your incisions? Why do you like this particular viscoelastic? This I/A tip? The insights you gain from these questions will often be invaluable as you develop your own techniques and preferences as a surgeon.

4. Listen and Respond

Nothing will make attendings more reluctant to hand over cases than a resident who they feel doesn't listen in the OR. When your attending asks you to stop, you must stop. Eye surgery is complex. Often there are multiple things happening at once, and especially as a beginning surgeon, you might be focused on one thing while four other things are happening that you don't recognize.

Of course, sometimes it can be hard to hear the feedback your attending is providing during surgery.



Anthony Mai, MD, practices cataract surgery in the wet labs.

If you are ever unclear about what your attending is saying, or uncertain about what they want you to do, it's never wrong to pause and ask for clarification.

5. Critique Your Work

Anytime you perform a procedure, debrief with your attending afterward. Ask for feedback. How did the surgery go? What did you do well? What do you need to work on? Take time to perform the same critique on yourself. What things do you want to focus on for your next case? What can you feel proud of?

Also make sure you record every surgery on video. Recording your surgeries is critical in capturing everything that is happening in the eye, especially in the case of complications. Most complications occur in the span of a millisecond, and the rest of the case is spent in crisis management mode. These highly stressful scenarios can make it difficult to remember details later on when you are trying to determine what went wrong.

Recording each case also allows you to review complications in detail and in an environment that will help you learn from what happened. Even in the absence of complications, watching your surgery videos is a helpful way to improve your technique and identify areas for improvement.

Becoming a safe, efficient and elegant surgeon is the goal of every ophthalmology resident. Utilizing these five tips will help you achieve that goal by maximizing your learning each time you step foot in the OR.

Rachel Simpson, MD, is a glaucoma specialist at Moran Eye Center, University of Utah, in Salt Lake City. She joined the YO Info editorial board in 2020.



Slit Lamp 101

We all love ophthalmology because we are able to directly visualize the pathology and watch its resolution through our expert management — and the slit lamp is an essential tool.

Keep in mind that slit lamps are all a little different, so familiarize yourself with them at each clinic's location. Don't be afraid to ask for help on day 1!

Here are some expert tips on what to look for to ensure you are using the instrument correctly.

Ergonomics

Pay attention to positioning, both for yourself and your patient. Adjust the height of the slit lamp so you are sitting with a straight back. Then adjust the chin rest so your patient's eyes line up with the black line on the chin rest holder.

Instruct the patient to keep their forehead pressed against the head rest. Place your dominant hand on the joystick and your nondominant hand on the illumination system arm. This will allow you to have excellent control of your slit lamp.

For challenging patients with a large chest or abdomen: These body parts can get in the way of the slit lamp. So lift their chair up high and have them come forward in the seat and lean forward, pivoting at the waist.

Be Systematic

Use the same system for every patient, every time. If you don't follow this rule, you'll miss important examination findings.

Start with the right eye: Eyelids, eyelashes, meibomian glands, palpebral conjunctiva, upper lid and then lower lid.

Conjunctiva and sclera: Have the patient look in all directions so you can examine all parts of the anterior globe.

Cornea: Start with diffuse light, and then bring the light directly in front of the eye for a red reflex. This will highlight irregularities in the cornea as well as the lens and will show transillumination defects in the iris.

Now, narrow your beam (with your nondominant hand already resting on the width control). Examine the epithelium, then the stroma and then the endothelium. Keep your light temporal for the temporal side of the cornea and swing your light nasally for the nasal examination.

Pro tip: Lift the upper lid to examine the superior cornea. Here PGY-2s often miss significant pathology.

Anterior chamber (AC): Look for cell/flare by focusing on the iris, moving over the pupil and then pulling toward you slightly. Reduce the size of your



Dr. Silverstein models the correct posture and hand positions at the slit lamp.

beam to 1 by 1 mm. Use increased magnification. Also make sure the AC is deep — if shallow, don't apply dilating drops.

Iris: Look for neovascularization and nevi.

Lens: Repeat the red reflex if necessary. Look at the anterior lens, posterior lens and nucleus.

Anterior vitreous: In patients with floaters, look for pigment in the vitreous, which is a sign of retinal detachments/tears (Schafer's sign).

Move to the left eye.

Pro tip: Mind the nose! Pull the slit lamp in an arc around the patient.

Tools of the Lamp

Slit lamps have various components that you will need to familiarize yourself with:

The joystick: Think of this as the "fine focus" of your microscope. Always keep a hand here.

Cobalt blue filter: Learn to switch from white light to blue light. This is different on each slit lamp. Apply your fluorescein after looking at the cornea; the staining can block your view of important corneal findings.

Vertical slit beam: This can be used to measure structures and can rotate in different directions. For example, measure a hyphema or a corneal ulcer.

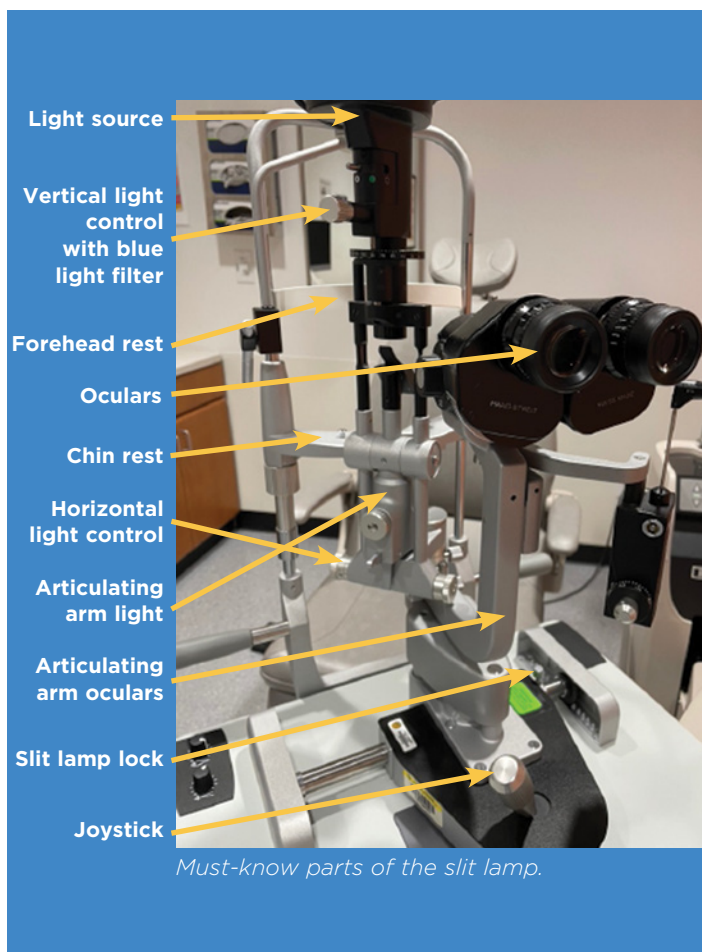
Rules of the Lamp

Be aware of your lamp's settings and make sure you always follow these habits.

Reset the ocular optics to zero which can be found on the top of the ocular piece. You can dial in your prescription here if you want to use the slit lamp without glasses.

Turn off the slit lamp and lock it after each use.

Marvel in the beauty of the eye!



Further Resources

Tim Root from Ophthobook.com has a fantastic summary about using the slit lamp on YouTube. youtube.com/watch?v=w9wMJ6job_0.

Slit Lamp Examination. EyeWiki. eyewiki.aao.org/Slit-Lamp_Examination.

How to Use a Slit Lamp. American Academy of Ophthalmology. aao.org/yo/yo-info/article/how-to-use-slit-lamp.

Evan Silverstein, MD, is a pediatric ophthalmologist and an assistant professor of ophthalmology and associate resident program director at Virginia Commonwealth University in Richmond, VA.



Top 3 Actions to Safeguard Your Finances During Residency

There is so much to learn about medicine and ophthalmology, but as you wade through this sea of new information, be careful not to neglect your financial health. The average medical student begins residency with a negative six-figure net worth.

Even if you are fortunate enough to be in a better financial position from the get-go, taking the following steps can help build good financial habits for the future and safeguard your finances for your entire medical career.

1. Maximize Your Savings Rate

First things first. The initial step toward financial independence is to focus on maximizing your savings rate (in other words, how much of your paycheck you can save). To accomplish this requires an understanding of your income, which is likely very steady, and expenses, which you should minimize as much as comfortably possible. There are many apps and websites that can safely link to all of your accounts to help you monitor and manage your budget. My favorite is Personal Capital (personalcapital.com). Others include Mint (mint.intuit.com) and YNAB (youneedabudget.com).

Pay down debt or invest? The next step is to figure out what to do with that extra cash. First, build an emergency fund to cover a couple of months of expenses. If you have student loans, continue making the minimum payments your lender requires. The decision to further pay down loan debt versus investing is personal. There is no wrong answer here. You can do both, as long as you continue to maximize your savings rate.

Student loans. Think of this as an investment with guaranteed returns. Your student loans will likely have an interest rate ranging from 2% to 7%. To decide how aggressively to pay off your loans, you have to examine the rate versus the marginal rate of return for other investments. For example, if your interest rate is high, even after refinancing, paying them off faster makes more sense. Other investments may perform better financially, but are also riskier. Overall, these loans are a safe investment in your future.

Investing. Investing your money is also an excellent option. Even small investments can compound and grow rapidly over the years. Contribute to retirement accounts, whether they're offered through your hospital or a personal retirement account like a Roth IRA. Then set up a taxable brokerage account and create a simple portfolio of investments that will form the backbone of your financial growth.

As you invest, it's easy to get caught up in hype stocks, but try to leave emotion out of it. The S&P 500, which includes around 500 of the largest and best-known companies in the United States, has returned an average of approximately 8%. Remember the reality is that more than 85% of professional fund managers fail to beat their benchmarks (like the S&P 500) consistently over the long term. Save yourself unnecessary fees and invest in a foundation of low-cost index funds. If you want a truly hands-off approach, consider investments like Betterment (betterment.com/) or WealthFront (wealthfront.com/), both of which automatically create portfolios of low-cost index funds based on your risk tolerance. Once you have that established, feel free to roll the dice with stocks.

2. Protect Your Future Earnings

As you've learned all throughout your medical career, life is precarious, and it's best to be prepared. There are two main insurance types you should consider prior to finishing your residency, because these costs will increase significantly as you get older and graduate.

Disability insurance. It's important to have your own disability insurance to replace some of the lost income should you ever need to stop operating due to health issues.

Term-life insurance. In the event of an untimely, unexpected death, you also want to make sure that your current (or future) dependents are cared for, as they too rely on your income. The lifetime earnings of an ophthalmologist are likely around \$5 million (assuming a \$250,000 salary and no raises for 20 years), so consider covering yourself for around this much, and gradually decrease as you build more wealth.

Avoid whole-life insurance products for now, as these are complex investment vehicles that are overly expensive for what they offer to residents.

3. Educate Yourself

The most important thing you can do to safeguard your finances is to educate yourself! Most physicians get very little financial education, so learn as much as you can to avoid costly mistakes. There are many resources available to get started. Here are some of my favorites:

- **Physician on Fire** (physicianonfire.com/). An excellent blog and good starting point to find even more resources geared toward financial independence.
- **The White Coat Investor** (whitecoatinvestor.com/). This is another great blog full of resources for all things related to personal finance. The book, which goes by the same name, offers a basic

overview of finance relevant to physicians.

- **Bogleheads** (bogleheads.org/wiki/Getting_started). This is a site for learning how to invest that advocates for low-cost index funds in particular. This is again based on the fact that most professional, active investment managers do NOT beat the market over the long term.
- **Portfolio Visualizer** (portfoliovisualizer.com/backtest-portfolio). Once you have an idea of how you want to invest, this website can back test your investment plan and compare it to other investments to help you decide what works best for you.
- **The Only Investment Guide You'll Ever Need by Andrew Tobias.** For those that prefer books, this easy read is filled with personal finance tips. It's ideal for those looking to learn the basics of saving and investing.
- **American Academy of Ophthalmic Executives (AAOE)** has great resources on personal finance and more at aao.org/practice-management.



You Don't Have to Become a Financial Wizard

If you prefer, there is nothing wrong with having a complete hands-off approach. However, learn some financial basics so that you have a rudimentary understanding of what is recommended by professionals.

Start your search for financial help with a certified financial planner, a professional designation that demonstrates an ethical standard and fiduciary obligation to put your financial interests first. (Find one at letsmakeaplan.org)

Residency is an exciting time with so much to learn. Focus on medicine and ophthalmology, but begin to think about your financial future, so that once you are an attending, you have good habits and a plan in place!

Viraj J. Mehta, MD, MBA, is an oculoplastics surgeon at Washington Eye Physicians and Surgeons in Washington, D.C., and joined the YO Info editorial board in 2020.



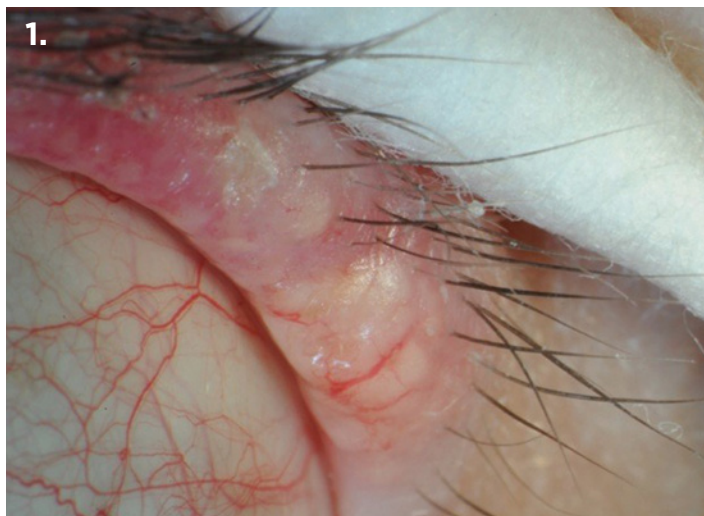
Top 9 Mistaken Diagnoses

We're all allowed to make mistakes ... but it's also best to avoid them whenever possible! Here are some of the not-so-infrequent "mistaken" diagnoses.

As you review, keep in mind that, although ophthalmology is often about pattern recognition, it's important to think of not just the most likely diagnosis, but also the most dangerous diagnosis you need to rule out with each presentation.

1. Sebaceous Carcinoma and Other Eyelid Tumors

Sebaceous carcinoma can often be misdiagnosed, as it may present in a multitude of ways: a recurrent chalazion, papilloma or keratoconjunctivitis or as diffuse tarsal thickening with signs of madarosis (see Figure 1), poliosis or eyelash abnormalities. Other eyelid cancers can also be misdiagnosed (including basal cell, squamous cell and Merkel carcinoma) and require a high degree of suspicion.

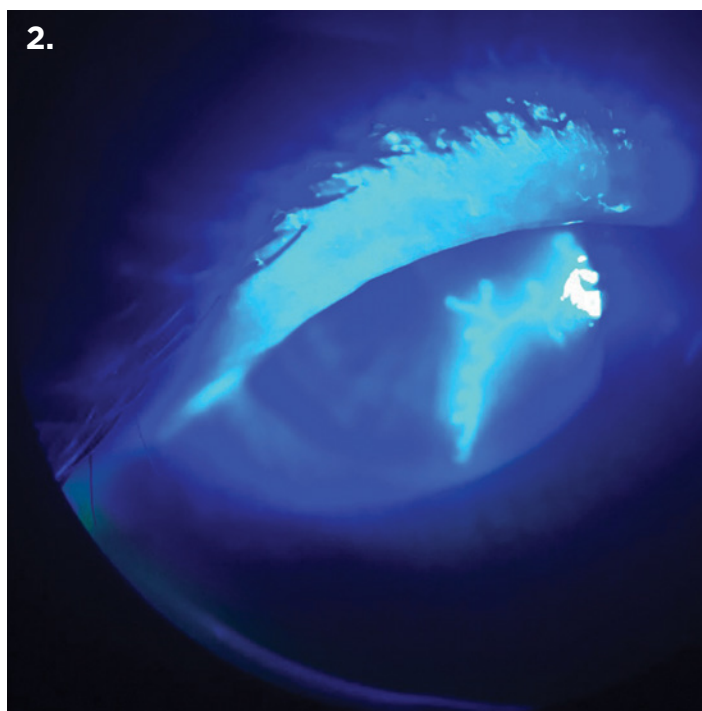


Eyelid lesion with diffuse tarsal thickening and signs of madarosis, suspicious for sebaceous cell carcinoma.

2. Herpetic Keratitis

Epithelial keratitis classically presents as dendritiform lesions (see Figure 2), but can also have a more geographic appearance, making it more difficult to differentiate from corneal abrasions or healing epithelial defects. Herpes can also present as stromal keratitis with or without ulceration and as endotheliitis. Keep herpes on the differential, especially if there is decreased corneal sensation, elevated intraocular pressure or corneal findings not responsive to other therapy.

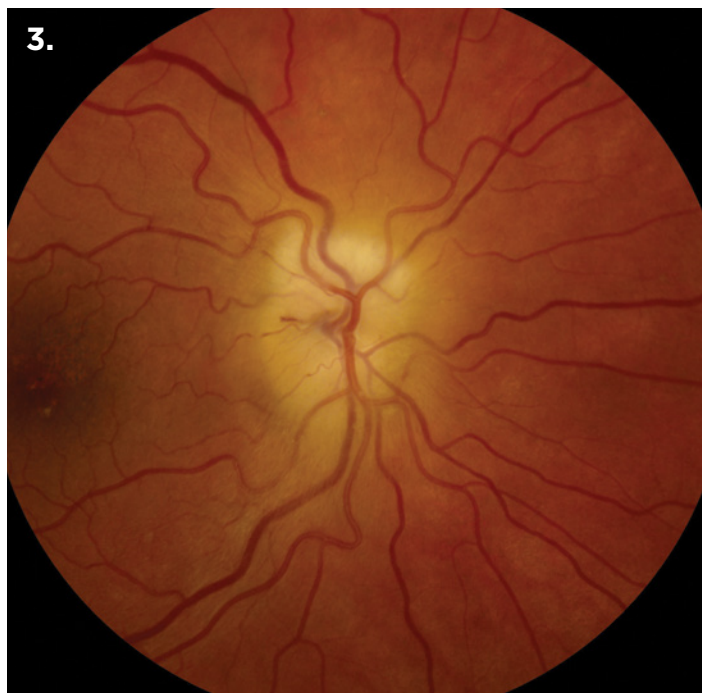
Note that herpes can affect any part of the eye, so it's therefore important to dilate every patient that presents with suspected viral infection to rule out posterior segment pathology, such as acute retinal necrosis.



Dendritiform epithelial keratitis, suspicious for herpetic keratitis.

3. Giant Cell Arteritis (GCA)

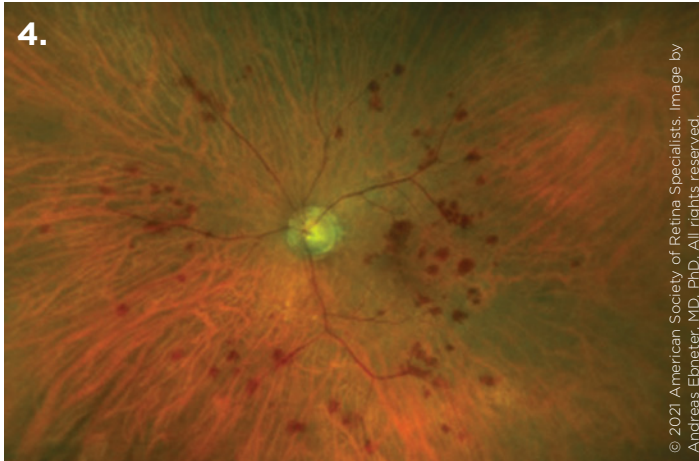
Keep GCA on your differential in patients over the age of 50 with new onset headache, loss of vision, diplopia, jaw claudication or other systemic findings. If there is a high index of suspicion or if lab work (erythrocyte sedimentation rate or ESR, C-reactive protein or CRP) is positive, start urgent treatment with steroids to prevent progression and involvement of the other eye. Plan for a temporal artery biopsy for pathologic confirmation.



Optic nerve pallor with a broad differential, including giant cell arteritis.

4. Ocular Ischemic Syndrome (OIS)

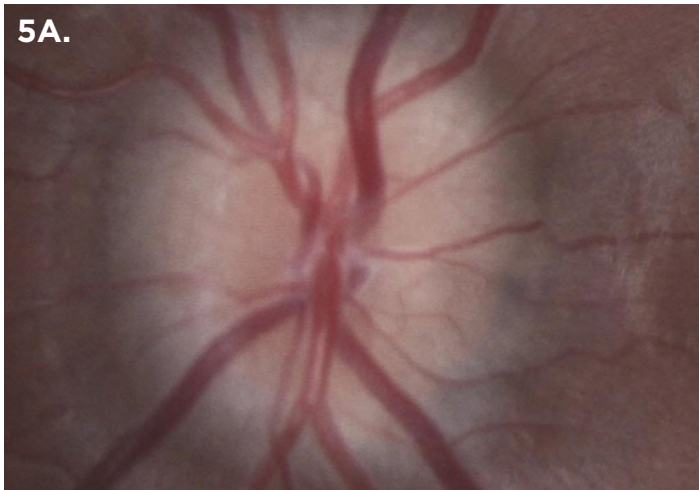
OIS is often confused with diabetic retinopathy or central retinal vein occlusion. Classic presentation includes subacute vision loss and orbital pain. The exam is often consistent with midperipheral dot and blot hemorrhages, including dilated veins and narrowed arteries; there may also be anterior segment inflammation and neovascularization with elevated intraocular pressure. Because carotid atherosclerosis is the main cause, patients need to be referred to their internists for carotid imaging.



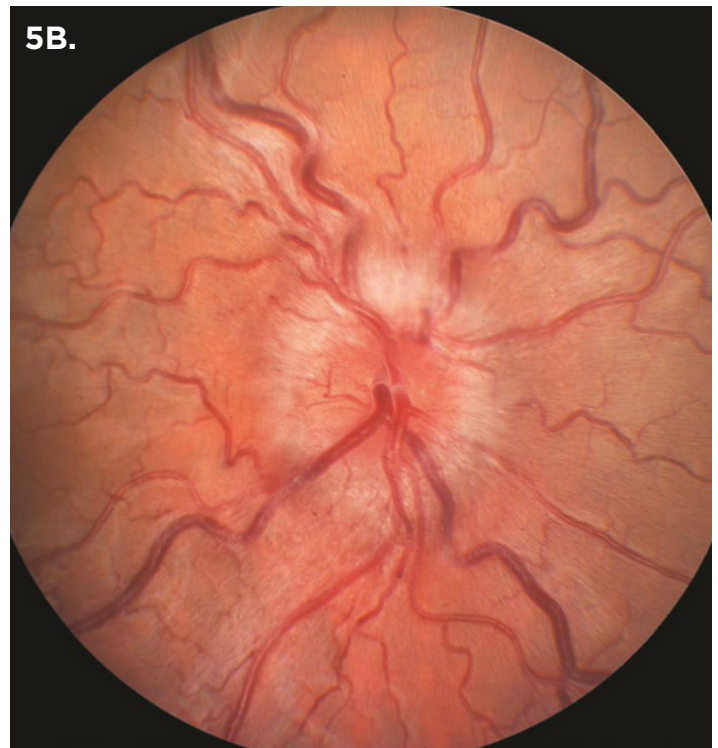
Attenuated vessels and midperipheral dot and blot hemorrhages, suspicious for ocular ischemic syndrome.

5. Papilledema/Pseudopapilledema

Watch out for subtle differences between these two. The nerve in Figure 5A initially appears to be elevated, but there are no obscurations of the vessels, and it is more consistent with disc drusen (pseudopapilledema). Figure 5B, on the other hand, shows dilated blood vessels and multiple vessels that are obscured as they cross the border. (In this case, disc edema was bilateral and associated with elevated intracranial pressure, which equals papilledema.) Patients with true papilledema require urgent evaluation.



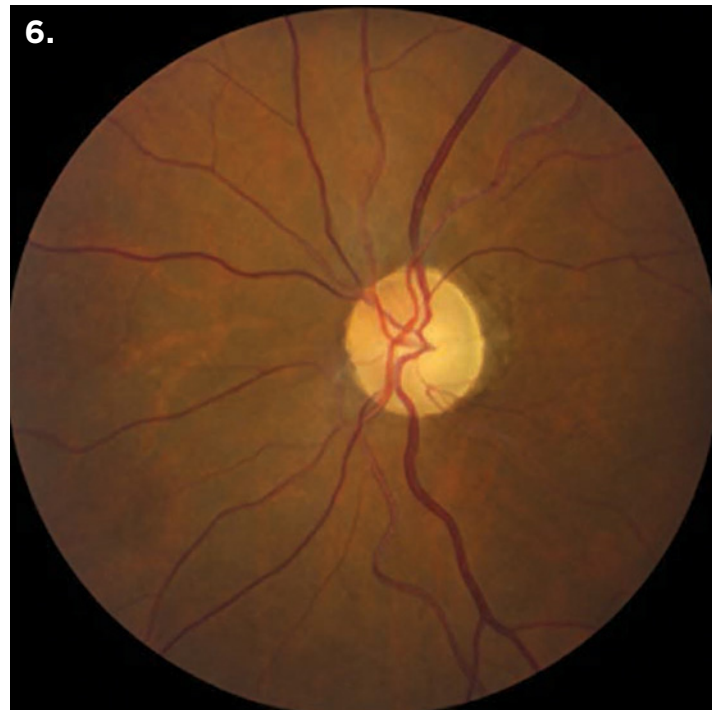
Blurred disc margins without obscuration of vessels, suggesting pseudopapilledema, and a "lumpy, bumpy" appearance, suggestive of disc drusen.



Blurred disc margins with obscuration of vessels as they cross the border of the disc, consistent with disc edema.

6. Syphilis

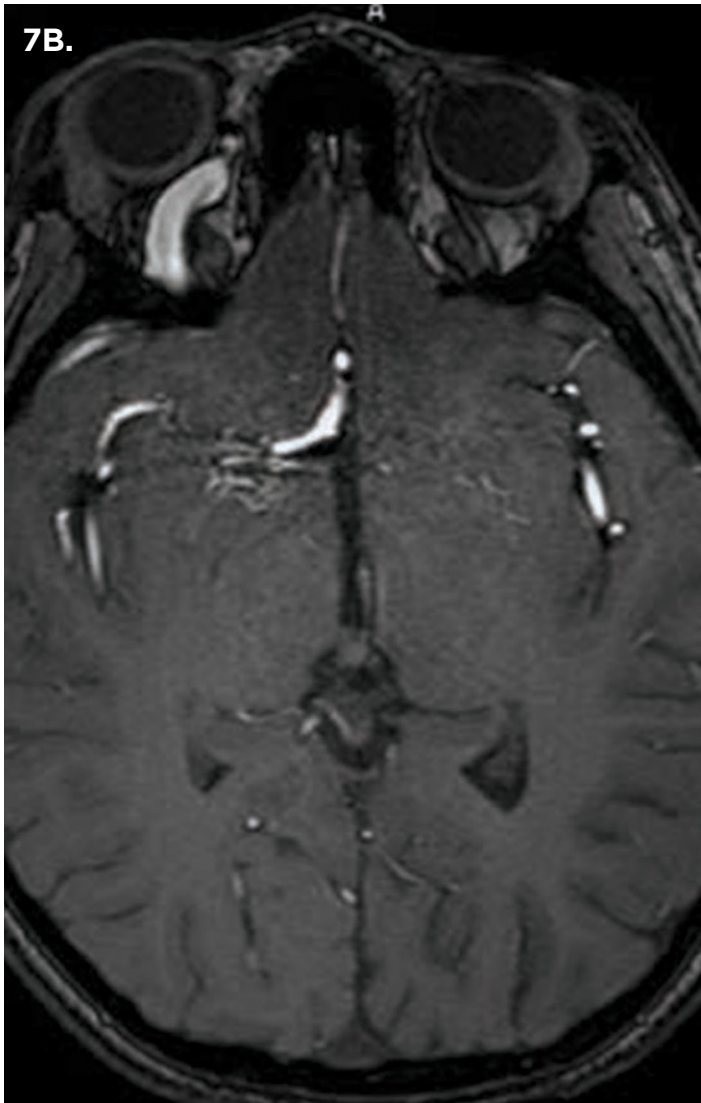
Syphilis typically presents as uveitis but can mimic a variety of ocular diseases (including optic neuropathy and interstitial keratitis). Other masqueraders that are important to include in the broad differential for ocular inflammation include tuberculosis, sarcoidosis and malignancy such as intraocular lymphoma. The infectious masqueraders must be ruled out before initiation of systemic steroid therapy for uveitis.



Optic neuropathy, one of the various presentations of syphilis.

7. Carotid-Cavernous (C-C) Fistula

C-C fistulas may be misdiagnosed as conjunctivitis or thyroid eye disease, as they have a broad spectrum of presentation, including mild conjunctival injection with or without proptosis, diplopia, elevated intraocular pressure, retinal venous congestion and/or variable discomfort. Look closely for small, tortuous corkscrew-type conjunctival blood vessels. Supportive findings can include blood in Schlemm’s canal on gonioscopy and presence of an orbital bruit. Urgent imaging is warranted.



Dilated corkscrew-like tortuous conjunctival vessels (7A) warrant further imaging for carotid-cavernous fistula (7B).

8. Central Retinal Artery Occlusion (CRAO)

CRAO is a time-sensitive diagnosis, as some patients may benefit from intra-arterial fibrinolysis or other maneuvers within a short time interval; additionally, patients have increased risk of stroke and cardiac events requiring urgent same-day referral for bloodwork and imaging. Look out for a new afferent pupillary defect in a patient with sudden vision loss. The classic cherry-red spot may not be visible initially. Always order lab tests to rule out giant cell arteritis in cases of suspected CRAO.



Cherry red spot that may be present in central retinal artery occlusion.

9. Retinoblastoma

Retinoblastoma is the most common intraocular childhood tumor. Although it most frequently presents as leukocoria (white pupillary reflex), it can also present as strabismus, pseudohypopyon (see Figure 9), inflammation, cellulitis or retinal detachment, to name a few.



Pseudohypopyon is one of the many diverse presentations of retinoblastoma.

Natasha Nayak Kolomeyer, MD, is a glaucoma specialist at Wills Eye Hospital in Philadelphia and joined the YO Info editorial board in 2019.



Get Involved: Advocate for Your Profession and Your Patients

The Academy's Congressional Advocacy Day and Mid-Year Forum are two of my favorite meetings of the year. They are such unique events, prompting hundreds of ophthalmologists to meet in Washington, D.C., to advocate for our profession and, most importantly, for our patients.

My First Mid-Year Forum

I have very fond memories of my first experience at this meeting. As a resident at Howard University Hospital in the D.C. area, I was fortunate to be able to attend during my first year of ophthalmology training as part of the Academy's Advocacy Ambassador Program (aao.org/mid-year-forum/advocacy-ambassador-program).



Dr. Okeagu pictured on Capitol Hill with colleagues during the Academy's Mid-Year Forum.

The opening session. As I sat in the Mid-Year Forum opening session surrounded by my fellow ophthalmologists, listening closely to the leaders of our field stress the importance of being vocal advocates, I was inspired. As a resident, it's easy to become so engulfed by clinical responsibilities and education that one may lose sight of what is most important, which is providing the best care possible for our patients.

I realized that although the field of ophthalmology is an exhilarating one and thriving in many ways, our ability to provide the best patient care was at risk. There are many crucial issues that could challenge our ability to provide this care if we as ophthalmologists are not vocal advocates for our profession.

I also became aware of the importance of contributing to the Academy's Surgical Scope Fund and OPHTHPAC® fund.

The Surgical Scope Fund is in place to protect patients by ensuring that surgical procedures are performed by those most trained to perform them, surgeons. OPHTHPAC is a nonpartisan political action committee that exists to guarantee ophthalmologists have a voice in Washington, D.C., regardless of changes in legislature.

On the ground. As I walked through our nation's beautiful capitol surrounded by the cherry blossoms in fresh bloom, I was filled with excitement. When I entered the halls of the Capitol Building, I was filled with emotion, proud to advocate for the field of ophthalmology and to be a champion for my patients.

However, along with pride, I could not help but feel slight trepidation: would these busy lawmakers be willing to listen to a lowly resident like me? To my surprise the legislators listened attentively as we voiced our concerns, shared stories on our patients' behalf and reviewed our speaking points. They carefully took notes, asking questions periodically to clarify, ready to work toward solutions.

No Voice Is Too Small

Years have passed, and I'm now a first-year surgical retina fellow who has had the privilege of attending several Congressional Advocacy Days and Mid-Year Forum meetings over the years. I'm grateful to have been exposed to advocacy very early in my career. Each meeting I have attended has helped me grow as an ophthalmologist and taught me how important it is to be a vocal advocate for our profession.

Without advocacy, we may not be able to provide our patients the care they deserve. And as a first-year resident, I was worried that my voice was not significant enough to be heard. I quickly learned that this could not be further from the truth. The legislators were eager to listen to concerns.

Finally, these meetings reinforced the importance of networking. I've made so many great connections through advocacy, and it has allowed me the opportunity to bond with several like-minded ophthalmologists.

Although the Mid-Year Forum and Congressional Advocacy Day went virtual in 2020 and 2021, I look forward to next April when we can meet again in person in Washington, D.C., to continue advocating for our profession and patients. I know that becoming involved in advocacy has made me a better physician.

Chinwenwa U. Okeagu, MD, is completing a surgical retina fellowship in 2022 at the Kresge Eye Institute in Detroit, MI.



Dropless Cataract Surgery: Steps Toward a New Path

Diligent patient compliance with postoperative medications is of paramount importance to ensure optimal outcomes following cataract surgery.

However, the burden of eye drops is a real challenge, especially for the aging population. Patients are often unable to afford medications or use them correctly in the postoperative period. Also in the midst of the COVID-19 pandemic, patients are reluctant to use eye drops for fear of acquiring or spreading disease.

The good news is that there are promising developments toward a more “dropless” cataract surgery. Below are some of the various strategies and therapeutic options you can take advantage of to further enhance the surgical care you provide to your patients while also reducing their medication burden.

Compounded Formulations

After cataract surgery, many surgeons employ a regimen of a topical nonsteroidal anti-inflammatory (NSAID) medication over a two- to four-week postoperative period. These multidrop regimens can be overwhelming and also costly for patients.

But with the advent of compounded formulations, patients can now obtain one medication bottle that contains all three components of this conventional medication regimen. This formulation obviates the need for the patient to purchase multiple medications of varying costs, and postoperative dosing and duration can be easily determined by the physician and then relayed to the patient. In addition, the surgeon can order the formulation to specific pharmacies at the time of the surgical consultation, and it will be shipped directly to the patient’s home prior to surgery.

Intracameral Agents

Another way to reduce postoperative drop burden is by implementing various intracameral agents at the time of cataract surgery. Intracameral phenylephrine 1% and ketorolac 0.3% solution (Omidria) is used by many surgeons intraoperatively and has been shown to not only prevent intraoperative miosis, but also reduce postoperative ocular pain and cystoid macular edema. With this intraoperative medication, some surgeons have eliminated topical steroids and NSAIDs from their postoperative regimen altogether.

Intracameral antibiotics have also changed the landscape for the use of postoperative antimicrobial drops. Moxifloxacin, for example, can be injected intracamerally at the end of a cataract procedure as opposed to using a topical antibiotic drop. Compounded formulations of combination dexamethasone and moxifloxacin are also available, which can be injected intracamerally. As a result,

surgeons can thereby eliminate both topical antibiotic and steroid drops from their postoperative regimens.

Topical Steroid Alternatives

Topical steroid drops are often the most burdensome to patients following cataract surgery because the drops typically require a tapering schedule and longer duration of use. The development of intracanalicular steroid inserts and injections is therefore very promising for both surgeons and patients.

Insert: The sustained-release, preservative-free intracanalicular dexamethasone ophthalmic insert 0.4 mg (Dextenza), for example, is placed into the lower eyelid canalicular system at the conclusion of cataract surgery in less than one minute following dilation of the lower eyelid punctum. In the rare circumstance that a patient’s anatomy precludes placement of the insert, the surgeon can dilate the upper eyelid punctum and insert the implant there.

Dexamethasone is then released for 30 days. After drug delivery, the insert degrades and is ultimately cleared via the nasolacrimal duct system, obviating the need for postoperative removal.

Injection: Dexamethasone intraocular suspension 9% (Dexycu) is a single-dose intracameral steroid that is injected behind the iris at the conclusion of cataract surgery to reduce postoperative inflammation.

A 0.005-mL injection of this suspension creates a sphere or ampule of medication that is suspended behind the iris in the ciliary space. This medication sphere can be visualized postoperatively and continues to have effect for up to 30 days until it completely dissolves.

Lastly, subconjunctival or sub-Tenon’s steroids such as triamcinolone or kenalog can be injected at the conclusion of surgery as a means to reduce the need for postoperative steroid regimens.

Patient Satisfaction

With these new technologies, cataract surgeons have several tools in their armamentarium to reduce patients’ postoperative medications. Of course, approaches for dropless cataract surgery need to be tailored to each patient specifically, depending on comorbidities and insurance coverage, and must fit each surgeon’s pre-, intra- and postoperative flow.

Ultimately, patients are very appreciative of these options for reducing not only the number of eye drops, but also medication-associated expenses. Surgeons are already witnessing both reductions in patient callbacks and increases in patient compliance and satisfaction.

Nandini Venkateswaran, MD, is a cataract, cornea and refractive surgery specialist at the Massachusetts Eye and Ear Infirmary in Waltham, MA. She is also a clinical instructor of ophthalmology at Harvard Medical School. She joined the YO Info editorial board in 2020.



Join the Global Ophthalmic Education Community With EyeWiki®

EyeWiki® (eyewiki.org) is a widely recognized and used destination for ophthalmic information, and one of the most essential educational channels the Academy maintains.

I have been involved with the website since its early stages in 2010 and continue to be amazed at where it is today and how it continues to evolve.

What Is EyeWiki?

EyeWiki is unique among public wiki-based websites: a community of ophthalmologists controls all the content, which ensures for higher quality than similar online medical resources. Because the thousand-plus articles are updated in real time, EyeWiki quickly covers new breakthroughs or techniques, as compared to textbook publishing. Visitors — both health care professionals and the public — have anytime/anywhere access to up-to-date information, without cost.

EyeWiki's Global Presence

We celebrated EyeWiki's 10-year anniversary last year, and in its first decade, the site's global reach has been astounding. As of December 2020, the site received 8.3 million annual views, with nearly 70% of traffic from outside the United States and every corner of the globe. And to reflect the various viewpoints and practices around the world, our editorial body represents a diverse population.

How to Become an EyeWiki Contributor

Clearly, dedicated people are the cornerstone behind EyeWiki's success. For residents, the site represents a perfect opportunity to get involved with the ophthalmic community, to author and edit and to make a positive impact on both fellow ophthalmologists and the public at large.

We are calling on you to join the 2,100 practicing and in-training ophthalmologists who contribute to the site. Simply create an account, and then add to an existing article. If you see an interesting case that you have studied or presented, submit a new article so that others can learn from you.

Your contributions will showcase your scholarship, build your CV and also help you become adept at working within a wiki authoring system (EyeWiki is built on MediaWiki, which is the same platform used by Wikipedia).

As a resident, you can also take advantage of the annual contests that EyeWiki hosts for residents and fellows. Enter your original article in the U.S. Residents and Fellows-in-Training Contest for a chance to win a trip to the Mid-Year Forum as part of the Academy's Advocacy Ambassador Program.

Here's how to get started:

1. Set up an account:

eyewiki.org/w/index.php?title=Special%3AUserLogin&returnto=Main+Page&type=signup

If you had an account as a medical student, request editing and authoring privileges as a PGY-1 by contacting eyewiki@aao.org.

2. Add or edit articles:

Any ophthalmologist or ophthalmologist in training can add an article (including text, images and videos) if the topic is not already covered in EyeWiki or edit and contribute to any existing article on the site.

3. Enter the annual EyeWiki® U.S. Residents and Fellows-in-Training Contest:

Visit the contest web page at eyewiki.org/Residents_and_Fellows to learn more about the submission guidelines.

2020 Winners:

Minh Nguyen, MD, University of Washington, a repeat contest winner for "Coronavirus (COVID-19)"

Robin K. Kuriakose, MD, Loma Linda University Eye Institute, "Incision Construction"

Jacquelyn Laplant, MD, St. Jude Children's Research Hospital, "Carotid Cavernous Fistula"

Karen M. Wai, MD, Massachusetts Eye and Ear, "Medial Canthal Tendon Avulsion"

We look forward to having you join the EyeWiki community!



Top row: Minh Nguyen, MD (left), Jacquelyn Laplant, MD. Bottom row: Karen M. Wai, MD (left), Robin K. Kuriakose, MD.

Cat Nguyen Burkat, MD, is editor-in-chief of EyeWiki. She is a professor in ophthalmology at the University of Wisconsin-Madison and is also co-director of the Global Ophthalmology Initiatives at the University of Wisconsin.



ONE® Network Highlights for New Residents

New residents are entering their ophthalmology training during a period of significant change: as of summer 2021, the Accreditation Council for Graduate Medical Education now requires that internships are either joint or integrated.

Here we highlight resources from the Academy’s ONE® (Ophthalmic News and Education) Network that can help both PGY-1 and PGY-2 residents navigate this period.

There is an overwhelming amount of information you need to learn right now, so we suggest you focus on high-yield, engaging and interactive ways to learn. Reading and rereading alone is not an effective mastery technique, and the activities highlighted here are evidence based and time efficient.



Resources for PGY-1 and PGY-2 Ophthalmology Residents

Starting ophthalmology residency is tough. Every patient encounter will feature unfamiliar pathology, assessed with unfamiliar vital signs, visualized with unfamiliar equipment, analyzed with unfamiliar testing modalities, and treated with unfamiliar medications. For many, medical school did not provide you with a lot of specific knowledge about how to be an ophthalmologist. Yet you will soon be expected to know more ophthalmology than anyone else in the hospital. It is not unusual to be welcomed into ophthalmology with the complete BCSC series with an invitation to just learn the content presented in 5,300 pages. This transition is stressful. Even as we hope that an integrated internship will flatten the learning curve somewhat, the amount and speed through which one has to acquire the body of knowledge will remain a substantial challenge.

This guide provides insights about how to learn ophthalmology (metalearning), suggests achievable goals, and resources that pair well with those goals. If you are feeling overwhelmed, know that you are not alone—the task before you is difficult but not impossible. You can do this!

Ophthalmology as Ultralearning	+
Make it Stick	+
When and how much ophthalmology should I learn during PGY-1 Year?	+
Clinical Skills Resources	+

PGY-1. For those of you who are starting your PGY-1 intern year — now with three months of ophthalmology included, we have created the following page with some guidelines on how to make the most of your time: aao.org/resources-for-pgy-1-and-pgy-2-ophthalmology-residents.

PGY-2. For residents starting PGY-2, we hope that a growing number of you are already in the institution where you will continue into residency, since this certainly makes the transition less stressful.

Resources

The Academy’s Committee for Resident Education oversees online content for residents at aao.org/residents. You will find an array of resources created to help you study and learn:

- Flashcards that you can use for group or individual study — aao.org/flashcards.
- Slides and diagrams for study and learning — aao.org/okap-study-presentations.

- Videos, including introductory lectures, presentations and basic surgical skills — aao.org/residents-browse?filter=video.
- Interactive Strabismus Simulator and Retinoscopy Simulator — aao.org/interactive-tool/strabismus-simulator and aao.org/interactive-tool/retinoscopy-simulator.
- Online courses with a variety of topics, including optics — aao.org/residents-browse?filter=course.
- Interactive simulated cases on OCT interpretation and much more — aao.org/resident-course/introduction-to-oct.
- Cataract Master, a cognitive training tool for cataract surgery decision-making — aao.org/interactive-tool/cataract-master-2.

We have aimed to create interactive and creative modules to help you learn about complex topics in ophthalmology. Beyond the links in this article, you can find all this content and more at aao.org/residents or use the search function on the site.

I encourage you to share your best ophthalmology memory palaces at the following Instagram page, created by Dr. Evan Silverstein, for potential publication via the Academy: [instagram.com/ophthalmologymemorypalaces](https://www.instagram.com/ophthalmologymemorypalaces).

Be a Part of Our Future!

We welcome you into ophthalmology with open arms, and if you have ideas for new or innovative ways that we can help residents manage and acquire knowledge, please email us at onefeedback@aao.org.

Laura K. Green, MD, is the residency program director and a cataract and cornea surgeon at the Krieger Eye Institute, Sinai Hospital of Baltimore. She is also chair of the Academy’s Committee for Resident Education.



4 Tips on Being a Mindful Mentee

One of the main benefits of being a trainee is that you get to see how other physicians act behind the scenes. You get to learn who you want to emulate. And often, trainees can end up as an amalgam of the mentors they choose. Let's discuss how to grow relationships with mentors, as well as how mentors can benefit not only your training, but also your wellness and your ability to overcome obstacles in difficult times.

Ask Good Questions

It's impossible to identify the value of your network until you need it. Asking questions and developing relationships with potential mentors early on is going to show its value quickly.

Approach potential mentors with thoughtful questions. It's important to show that you did some level of research before asking another more-senior person for help. This shows your dedication to the answer and that you care about your mentor's time. Respect garners respect, in turn.

Ask With a Solution in Mind

Problems need solutions. But most problems in life worth discussing don't have real "right" or "wrong" answers. This is why we talk things out — to come to terms with the best, but still imperfect, solution or to allow others space to offer their perspectives.

When you approach a mentor with a problem and a potential solution, you get an opportunity to show him/her your level of understanding and determination in solving the issue. It can also jog the discussion and help the mentor offer his/her own perspective(s).

Ask With Both Ears Open

We live in a life full of distractions. When you approach a mentor, remember to listen with your full attention.

Even if you really think you already have the best answer, remember to listen. Not only is it cathartic, but you are almost guaranteed to learn something new from a valued person in your life.

Even though social media is a ubiquitous part of our communication culture, the strongest relationships are ones that feature dedication, not distractions. If you want to strengthen a bond with your mentor, make time away from emails, texts and posts. These more intimate, in-person moments of communication will also remind you how to focus on challenging tasks that demand creative thinking.

Ask for What You Need

"You don't always get what you want. But if you try sometimes ... you get what you need." — Rolling Stones

Life as a resident can be stressful. But the good news is that mentors often know exactly what you are going through, having gone through it themselves. And if the last year has taught us anything, it's that people need each other. Of course, it's important to work hard, be a patient advocate and remain driven in your training, but don't be afraid to lean on mentors when needed. You may be surprised how your trust in your mentor can result in reciprocation.

In the end, remain mindful about your experience and remember to include your co-residents in building supportive relationships. Strong bonds endure and can enrich the rewards of your time in training and throughout a lifelong career in ophthalmology.

James G. Chelnis, MD



YO Info Resident Edition



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