

What it's like in ophthalmology: Shadowing Dr. Armstrong

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Staff News Writer

As a medical student, do you ever wonder what it's like to specialize in ophthalmology? Meet Grayson W. Armstrong, MD, MPH, an ophthalmologist and a featured physician in the AMA's "Shadow Me" Specialty Series, which offers advice directly from physicians about life in their specialties. Check out his insights to help determine whether a career in ophthalmology might be a good fit for you.

The AMA's Specialty Guide simplifies medical students' specialty selection process, highlight major specialties, detail training information, and provide access to related association information. It is produced by FREIDA™, the AMA Residency & Fellowship Database®.

Learn more with the AMA about the medical specialty of ophthalmology.



Grayson W. Armstrong, MD, MPH

"Shadowing" Dr. Armstrong

Specialty: Ophthalmology.

Practice setting: Academic Hospital.

Years in practice: Two—still in fellowship, but also acting as attending while chief resident and as a fellow for the past two years.

A typical day and week in my practice: I am so lucky to have the opportunity to have incredibly varied experiences day-to-day. Ophthalmology as a specialty has offered me the ability to take part in patient care, surgery, research, education, public health and entrepreneurship every single week. This is perfect for me, as I like to dabble in multiple areas without having to be tied solely to one thing.

I founded a company while in residency, and on Monday and Friday mornings, I work through meetings and R&D sessions with my co-founders and employees to innovate and create new telemedical devices.

On Monday afternoons, Tuesdays and Fridays, I am either helping design new virtual curricula for Harvard medical students related to ophthalmology, or I'm helping implement new and exciting research studies at my hospital related to telemedicine and artificial intelligence.

I take care of patients all day Wednesday and Thursday, typically seeing 30 patients per day, doing eye exams, and providing diagnoses and treatment plans. Two or three days a month I perform surgery, which is typically cataract surgery. I'm lucky to be able to teach residents about cataract surgery and occasionally have medical students rotate with me as well.

It's always interesting to see what unfolds each day. Clinical work, entrepreneurship, research and teaching are all very different skills, and bouncing between each one always keeps me on my toes. I never get bored.

The most challenging and rewarding aspects of ophthalmology: One of the most challenging things about ophthalmology is that there are a number of eye conditions that can lead to blindness, and we don't have a cure for all of them. It can be very difficult counseling a patient about the loss of vision and the impact it will have on their life and the lives of those around them. However, many eye conditions are treatable, either through medications or surgery.

I'm lucky to be able to help patients through the process of getting vision back, preserving vision, or living a successful and fulfilling life despite the loss of vision. Another challenging part of caring for patients in ophthalmology is also the most exciting. We use tools and techniques like the slit lamp as well as direct and indirect ophthalmoscopy to evaluate the eye and the retina, and we use a combination of interesting new technologies like laser-scanning devices to evaluate the eye as well.

Performing these exams and interpreting the data can sometimes be challenging for early residents and trainees, but I find it fascinating. It also makes the field incredibly amenable to research in the field of artificial intelligence. The massive amount of data we collect is pushing research in artificial

intelligence incredibly fast in our specialty.

How life in ophthalmology has been affected by the global pandemic: Ophthalmology was one of the hardest-hit specialties during the pandemic. At the beginning of the pandemic, we saw fewer patients than any other specialty. Eye exams turned out to be very unsafe during the pandemic because you have to be very close to the patient during the exam. If you remember, one of the earliest whistleblowers in China was an ophthalmologist who died from the virus.

Most of our surgeries are elective surgeries so many—if not most—of them were canceled for months. This meant that patients were losing their vision while waiting for care, and many physicians and practices were struggling financially for a while. Education was also challenging. Students and residents were rarely allowed in the hospital to see patients unless it was absolutely necessary. Because our surgeries weren't happening, it was also hard to train students and residents to perform surgeries.

Fortunately, things have gotten much better. We are starting to see many patients in person and most physicians are back to their normal schedules. We are taking extra precautions in the hospital to keep things safe wherever possible. While education was difficult, we were able to innovate and move most educational opportunities online. For example, we had virtual ophthalmology rotations for medical students, virtual lectures for the residents, a virtual surgical training curricula to keep up surgical skills, and many other interesting new techniques of education.

One incredible area of innovation resulting from the pandemic was the use of telemedicine to see ophthalmic patients. Since our specialty is so exam-heavy, it can be difficult to perform many aspects of the eye exam remotely. However, we are starting to figure out new and innovative ways to make this happen, and I am helping pioneer much of this through research at my hospital in Boston.

The long-term impact the pandemic will have on ophthalmology: Our specialty will continue to embrace the use of telemedicine much more than it did in the past. The importance of ophthalmic care became acutely obvious during the pandemic when most of the patient visits were unable to be performed and most of the surgeries were canceled.

Also, a large portion of ophthalmology education will probably remain online for the foreseeable future. This will shift the paradigm for medical student and resident education forever.

Three adjectives to describe the typical ophthalmologist: Good work-life balance, happy and laid back, innovative and curious.

How my lifestyle matches, or differs from, what I had envisioned: When I chose ophthalmology, I expected to have a relatively laid-back lifestyle compared to doctors who see patients in the hospital all the time, round early in the morning, are on-call all the time, and deal with emergencies and death frequently. I expected a mainly outpatient, ambulatory experience. However, I do love fixing things and doing surgery, so I wanted that as well.

I wanted my time with patients to be on a scheduled basis, which is useful for me because I have a lot of different interests and having an unpredictable or inflexible schedule makes multitasking difficult. All of these expectations came true in the field of ophthalmology.

Skills every physician in training should have for ophthalmology but won't be tested for on the board exam: The ability to perform microsurgery is incredibly important in ophthalmology, but this skill is not tested before you apply for residency. Even if you don't want to do surgery for the rest of your life, you need to learn how to perform ophthalmic surgery during residency training. It's hard to know whether you are a good microsurgeon during medical school—those opportunities don't arise often. That's why it's not tested.

If you like working with your hands, are detail oriented, are focused and precise, have experience working with microscopes and doing small tasks with precision, then you might be a great ophthalmologist. Most of us don't know that about ourselves before residency though, and that's OK! You don't need to know this yet. Just be aware that this is important for you in the future if you are considering this specialty.

One question physicians in training should ask themselves before pursuing ophthalmology: First and foremost, would you enjoy looking at eyes all day every day? A lot of people get freaked out by eyes. I hear it so often. My colleagues in other specialties get grossed out by eyeballs and don't want to deal with them. Fortunately, I absolutely love eyes. They are incredibly beautiful, and I never get bored of looking at the eye through our slit lamp microscopes.

The online resource students interested in ophthalmology should follow: Ophthobook.com is a great resource with awesome videos, exam tips and tricks, and advice on the specialty.

Quick insights I would give students who are considering ophthalmology: It can be competitive and challenging to get into the field, but ophthalmology is the best field, and it is worth the hard work. Ophthalmology is an incredibly rewarding specialty for many reasons, and no matter what any student is interested in, they can find it in our specialty.

For example, individuals who love kids can go into pediatric ophthalmology. People who like neurology can go into neuro-ophthalmology. People who like plastic surgery and dermatology can go into oculoplastic surgery. If you're into rheumatology or infectious disease, you can go into uveitis. If you don't like doing surgery, you don't have to! There are non-surgical specialties as well. We literally have

something for everyone.

Mantra or song to describe life in ophthalmology: “Blinded by the Light,” by Manfred Mann’s Earth Band.