



ISER Early Career Researcher Blog

Finding a Research Mentor as a Medical Student
Interested in Ophthalmology

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On January 26, 2022 the USMLE Step 1 exam was officially transitioned from a numerically scored exam to pass/fail. Medical students across the nation... shocked.... Step 1 was considered one of the most important factors in selecting the next generation of ophthalmologists – the great equalizer. In light of this change, increasing emphasis is placed on holistic review of each applicant and thorough evaluation of who they are as a person. Factors such as applicant fit with the program, honors and awards, community service, leadership, committee experience, and especially research productivity are of increasing value after this change. Therefore, it's imperative that first year medical students interested in competitive specialties, especially ophthalmology, locate research mentors early on to help position themselves for a successful future match.

Finding a supportive mentor is not easy. When I began looking for a mentor, it was difficult without having extensive prior research experience. Researchers are busy, doctors are busy, and I'm just a medical student... right? Researchers are very busy, but that doesn't mean all hope is lost! The vast majority want to mentor students. It's probably one of the main reasons they chose academics, and if they do not have the resources to mentor you,

they will probably refer you to a colleague who is better suited for the task. So without further ado, here are some tips for finding your ideal research mentor during medical school.

1. Evaluate your goals for pursuing research – An important first step in finding a research mentor is first understanding what type of research you hope to pursue. There are numerous opportunities available to medical students including basic science research, translational research, and clinical research, each with its own set of advantages and disadvantages. Are you someone who enjoys laying down the blueprint for future research and making discoveries at the molecular/cellular level? If so, basic science research may be for you! On the other hand, if you find yourself wishing to see the clinical application of your labor in a short period of time, then perhaps completing a chart review may be up your alley. If you're somewhere in between, perhaps conducting a translational research project would be fitting. Assessing expectations and what you are hoping to accomplish is crucial to finding the right research mentor.

2. Narrowing down the choices – After you've assessed your goals for pursuing research, it's now time to narrow down the options from dozens of potential mentors to just a few. A great place to begin is searching for faculty names on PubMed or a school specific research site if your institution offers one. Begin by reading abstracts of articles recently published by faculty members. Once one piques your interest, read that article in its entirety to determine if its topic matches your own research interests. At this point, you probably found several articles published which align with your interests. To narrow down the options just a little more, determine if these faculty members have a track record of consistent publishing -- bonus points if they have medical students on the authorship list! While this should not be the primary factor as to whether or not you make contact with a faculty member, it should not be overlooked. Research faculty who have worked with medical students in the past are likely to understand the time constraints of the medical curriculum and may be more conducive to working with you.

3. Making contact with a potential mentor – This is one of the most important steps and unfortunately overlooked far too often! The key is sending a respectful email that states very specific reasons for why you would like to work with this faculty member. Some students may send generic or “blanket” emails to dozens of faculty members in hopes that one will respond. In my experience, this is unlikely to result in a successful research opportunity as it does not demonstrate interest or commitment. I have found success with mentioning specific parts of a paper which appealed to me and stating exactly why I found it interesting. Perhaps the PI used a unique methodology, or revealed a conclusion that was unexpected, or maybe the discussion thoroughly dives into the literature on a topic you have previous research experience in. It can be anything! Just make sure your email is respectful, genuine, and specific.

4. Meeting with your Potential Mentor – This is your opportunity for you and your potential mentor to get to know each other and also to establish expectations and understanding in advance. This helps avoid unnecessary conflict and is very important. Some questions you can expect include asking about your prior lab experience, how much time you can commit to lab, why you would like to work in the lab, what you hope to gain, and some basic information about your educational background. This is not an exhaustive list!

Important questions to ask during the meeting:

- a) Ask about your project: Will you be working under someone other than the PI or is this an independent project? How long do they expect the project to take? Where should you begin your literature search?
- b) Ask about authorship: Will the project likely result in a publication, if so will you be an author? Assuming that you contribute as expected, where can you expect to be on the authorship list? Is this a project that you could present at conferences?

5. Building a Relationship with Your Mentor – Sorry to disappoint, but the grind doesn't stop after you meet with your mentor! To make the most out of your research experience, building a relationship with your mentor is possible through hard work and passion for your project. Reading up on recent literature, contributing to other people's projects, and even doing fun activities like going out for annual coffee or team dinner is all part of being in a lab.

Each medical student's research experience is different so these tips may not apply to everyone. However, I hope that by sharing these tips acquired during my time as a first year medical student and "green" researcher, I can help other medical students find a mentor and excel in ophthalmology research. Cheers!