

Medical Student Education in Ophthalmology: Crisis and Opportunity

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The number of medical schools requiring a formal ophthalmology rotation has declined significantly during the first years of the 21st century—down from 68% in 2000 to 30% in 2004 (Association of University Professors in Ophthalmology 2004 Survey on Medical Student Teaching). At first glance, this seems shocking. How can it be that the specialty we love so much receives so little attention in the overall scheme of medical education? But the explanations are numerous. The explosive growth of scientific information dictates that more time be devoted to the core areas of medical education. Because the Liaison Committee on Medical Education does not specifically require ophthalmology training in medical school, ophthalmology rotations are vulnerable. And frankly, many academic departments of ophthalmology have disengaged from the medical student education process for a variety of reasons, including limited financial support for medical student teaching and inability—or unwillingness—to devote sufficient resources to the task.

As a result of limited ophthalmology education in medical schools and primary care residency programs, medical students and primary care physicians are inadequately trained to deal with the initial management or appropriate referral of even the most basic ophthalmic problems.^{1,2} They have an insufficient understanding of ocular anatomy, fundamental eye examination skills, common causes of vision loss, and the relationship between the eye and systemic disease. An equally disturbing possibility is that the best students may not consider a career in ophthalmology because of their limited exposure to the field in the formative years of medical school.

There is a clear need to improve ophthalmology education for medical students and primary care physicians.^{3,4} Our challenge—we would argue, our obligation—is to optimize existing educational programs and develop new teaching and learning activities to address specifically the needs of our medical student and primary care colleagues. How might we bring about such a change? In simplistic terms, change occurs because it is either required or seen as value added. There is reason to believe that each of these forces for change may be applicable to medical student and primary care physician education. Although the Liaison Committee on Medical Education does not specifically require ophthalmology education in medical school, the United States Medical Licensing Examination does contain ophthalmic content (<http://www.uslme.org>); it is likely that the new Clinical Skills Examination will require students to perform eye examination skills competently. The fact that vice-deans of medical education and curriculum committees are highly motivated to insure that medical students pass the United States Medical Licensing Examination and Clinical

Skills Examination should provide strong motivation to reintroduce ophthalmology in medical school curriculums. Our impression is that, although there are considerable constraints within medical school curriculums and residency training programs, vice-deans, residency program directors, and other educational leaders are receptive to expanding the role of ophthalmology—provided the commitment is real and the educational offerings are sound. We believe we can positively impact ophthalmology education using these fundamental concepts: prioritize, advocate, integrate, and innovate.

Prioritize. What do students and primary care physicians really need to know? Consider the Association of University Professors in Ophthalmology policy statement on medical student education.¹ Adopted in 1990, it provides suggestions for the minimum level of competence expected of general physicians when dealing with ophthalmologic problems. All students should be able to measure and record visual acuity, evaluate a red eye, evaluate a traumatized eye, detect strabismus and abnormal eye movements, detect abnormal pupillary responses, perform direct ophthalmoscopy to detect abnormalities of the optic nerve and fundus, and initiate management and/or referral for detected or suspected abnormalities of the eye and visual system. While teaching these specific skills, we can incorporate discussions on ocular anatomy, common causes of vision loss, ophthalmic emergencies, the eye and systemic disease, and the humanistic aspects of our profession. Let us get back to basics and adopt the Association of University Professors in Ophthalmology policy statement as our minimum standard and develop reliable and valid educational programs to achieve teaching and learning in these critical areas.

Advocate. A formal ophthalmology rotation provides the best opportunity to train students. Studies have shown that experiences outside a formal ophthalmology rotation are limited, and non-ophthalmologists are less effective than ophthalmologists in teaching ophthalmic knowledge and skills to students.⁵ There is clear evidence that active medical student education programs improve the knowledge and skill levels of students.^{6,7} In addition, dynamic medical student education programs may increase the number and quality of students applying to ophthalmology residency programs, ensuring that the next generation of ophthalmologists remains the best and brightest of our medical school graduates. In the absence of significant external mandates, it is vital that we demonstrate the value of ophthalmology education in medical school and primary care residency programs. This effort would provide additional educational research opportunities for our faculty members and allow

the clinician–educators among us to develop even more rewarding academic careers.

Integrate. The possibilities to incorporate ophthalmology into the existing medical school curriculum are endless: anatomy, physiology, pathology, pharmacology, neurosciences, endocrinology, physical diagnosis, medicine, pediatrics, surgery. We can play a role in many of the core basic and clinical science courses throughout the medical school years. Because of our limited financial and human resources, participating in existing courses allows us to improve ophthalmology education without significantly increasing the administrative burden of coordinating an entire course or rotation. There are secondary benefits as well: we can reengage with the medical school curriculum (it’s fun to work with medical students!) and strengthen our ties with other departments (which provides additional opportunities to collaborate in patient care and research).

Innovate. Ophthalmology is a profession recognized for its creativity and innovation. We must apply these attributes to our education mission. There are many opportunities to develop extracurricular programs for medical students. For example, ophthalmology interest group meetings conducted by enthusiastic ophthalmologists—including faculty members and private practitioners—provide an ideal forum to highlight ophthalmology as a career option and teach ophthalmic content. Participation in community service programs enables students to enhance their knowledge and eye examination skills while improving the quality of life in the communities we serve. We should develop continuing medical education programs specifically targeting the needs of primary care physicians or incorporate eye-related presentations into primary care conferences. In addition to mobilizing our faculty, ophthalmology departments should promote the role of ophthalmology residents as teachers and unleash the underutilized power of resident–student and resident–resident teaching and learning. In doing so, we have the opportunity to address many of the general competencies outlined in the Accreditation Council on Graduate Medical Education Outcomes Project: practice-based learning and improvement (“facilitate the learning of students and other health care professionals”), professionalism (“a commitment to excellence and on-going professional development”), interpersonal and communication skills (“work effectively with others as a member or leader of a health care team”), and systems-based practice (“partner with

health care providers to assess, coordinate, and improve health”).^{8,9}

This is a time of great challenge for ophthalmology in medical school education. With challenge comes opportunity. We have the chance to reverse the current trend of ophthalmology’s declining role in medical education. By prioritizing our educational programs, we can ensure that students and primary care residents master the basics. We must develop and strengthen formal ophthalmology teaching experiences offered by ophthalmologists. Integration of ophthalmology into the existing medical school curriculum and supplementation of this experience with innovative extracurricular programs are natural and readily available steps that can be implemented within any medical school. All of these goals can be accomplished as long as we are willing to commit the time and necessary resources to the task. Faculty support from deans and department chairs will be critical to the success of this effort. By reestablishing medical school education as a priority, we can reconnect with the greater medical school community and demonstrate our commitment to enhancing the education of all physicians.

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