

Developing the Educational Milestones for Ophthalmology

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THE OPHTHALMOLOGY MILESTONE WORKING
GROUP

Introduction

A key dimension of the Next Accreditation System is the educational Milestones. Assessment of resident performance on Ophthalmology Milestones will allow programs to offer enhanced feedback to their trainees on progress in dimensions of performance relevant to the unsupervised practice in the specialty. Aggregated to the program level, the Milestones will be 1 indicator of the educational effectiveness of residency programs, moving the focus of resident education from process to outcomes.

Milestone Development History

In 2000, the Accreditation Council for Graduate Medical Education (ACGME) Outcomes Project was initiated; the ophthalmic community, like other specialty stakeholders groups, was charged with developing or identifying tools to evaluate the specialty-specific competencies. Educational leaders in ophthalmology were asked to delineate “outcomes” for the competencies and the metrics by which the residency review committee (RRC) would evaluate the effectiveness of programs in teaching and assessing residents. The American Board of Ophthalmology (ABO) task force on the competencies, comprised leaders in the ophthalmology program director community, developed several tools, including the competency-based global evaluation and the Ophthalmic Clinical Evaluation Exercise.

In 2010, after the formation of Milestone working groups for several core ACGME specialties, the leaders of both the ABO and the Association of University Professors of Ophthalmology (AUPO) Program Directors Council began to explore Milestone development for ophthalmology. The ABO initiated discussions with the ACGME to investigate the formation of an Ophthalmology Milestone Working Group. Members for an Ophthalmology Milestone Working Group (composed of leadership of the PDC, RRC, and ABO, and including 1 resident member) and an advisory group (composed of leadership from ABO, ACGME, American Academy of Ophthalmology, and AUPO) were selected, and vetted jointly by ABO and ACGME. Anthony C. Arnold, MD, was selected to chair the group (BOX).

BOX MEMBERS OF THE OPHTHALMOLOGY MILESTONE DEVELOPMENT GROUP AND ADVISORY GROUP

Ophthalmology Milestone Development Group

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Bartly Mondino, MD, Association of University Professors of Ophthalmology
Patricia Levenberg, PhD, ACGME
David Parke, MD, American Academy of Ophthalmology
Susan Swing, PhD, ACGME

The working group engaged in 3 face-to-face meetings and extensive online review and editing, utilizing an iterative, consensus-based process for revision. The group reviewed the literature on the acquisition of competence in ophthalmology,¹⁻⁵ along with documents from other specialties' experience in developing educational Milestones (eg, internal medicine, urology, surgery, and pediatrics). Throughout the process of developing and refining the Ophthalmology Milestones, updates were communicated to the program director community via the ophthalmology RRC newsletter and the ACGME's weekly e-Communication (e-mailed announcement digest).

The draft Milestones were reviewed in a face-to-face session of the AUPO program directors, with small and large group discussions for each competency section, including review of time-dependent expected achievement language. Outcomes from these sessions were collated and used to refine the Milestone document, which was re-reviewed by the working group and sent to program directors for comments. This draft version was piloted by 10 ophthalmology programs, and feedback provided to the working group. The final version of the Ophthalmology Milestones was released in late 2013.

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General Features of the Ophthalmology Milestones

The Ophthalmology Milestones are designed as a template for evaluation of resident physicians at various points of training, from entry through completion. The Milestones are organized using the 6 ACGME competencies of physician performance, with a set of subcompetencies for each competency. Performance language is provided as a guide to allow categorization across a set of Milestones, from beginning resident to graduation (OPH 1–5). Implicit in the Milestones within the set are assumptions about the level of supervision required (direct, indirect, oversight). Categorization at a specified level assumes that a resident physician meets standards of the given level, and is qualified to supervise the level below.

The Ophthalmology Milestones incorporate a total of 24 subcompetencies (or Milestone sets), including 8 Milestone sets for patient care, 2 for medical knowledge, 4 for professionalism, 4 for interpersonal and communication skills, 3 for practice-based learning and improvement, and 3 for systems-based practice. An appendix to the Ophthalmology Milestones supplements the patient care subcompetencies to provide sufficient granularity for assessment of knowledge and skills without requiring reporting on each of these items.

Establishing Milestone Validity, Utility, and Practicality

The initial Ophthalmology Milestones were formulated by a national team of educators and content experts, with face validity established by their development and review. Existing studies, as listed in the references, were used in development, and documents and processes of other specialty groups were consulted. A pilot study involving 10 programs was accomplished, and structured feedback was collated and forwarded to the working group to refine the document. Ongoing dialog with the ABO is expected to result in integration of Milestone structure into the certification process.

Envisioned Practical Use in Evaluating Residents

The Milestone document incorporates a structured framework for assessing resident performance at various stages

of training. Review of the Milestone data at 6-month intervals provides early assessments that facilitate identification of residents requiring added training experiences and/or remediation. In addition, the specificity of the document allows for targeted enhanced training and follow-up assessments to ensure that satisfactory performance has been achieved. The final report documents whether residents have achieved competence to enter unsupervised practice, with more clarity and scientific justification than has previously been present.

Recommendations for Competency Committee Composition and Functioning

With the majority of ophthalmology programs ranging from 6 to 24 residents, it is expected that the Clinical Competency Committees (CCCs) will include 3 to 6 faculty members with significant exposure to, and roles in, resident education. The CCCs will meet twice yearly to make Milestone categorization assignments for all residents in the program. Each faculty member will be assigned several residents, receive results of assessments for the previous reporting period, and make a preliminary decision regarding Milestone categorization. At the meeting, discussions about each resident will allow for final Milestone level assignment, and discussion of summary performance for all residents in the program will identify opportunities for curricular improvements.

References

- 1 O'Day DM, Li C. The failure rate of candidates for board certification: an educational outcome measure. *Trans Am Ophthalmol Soc.* 2006;104:129–142.
- 2 Graff JM, Oetting TA, Lee AG. The ophthalmic knowledge assessment program (OKAP) examination and global evaluation of resident performance. *J Acad Ophthalmol.* 2008;1:20–24.
- 3 Chen PP, Bhandari A. Resident performance on the ophthalmic knowledge assessment program and the written qualifying examination for board certification. *J Acad Ophthalmol.* 2010;3:11–14.
- 4 Johnson GA, Bloom JN, Szczotka-Flynn L, Zauner D, Tomsak RL. A comparative study of resident performance on standardized training examinations and the American Board of Ophthalmology written examination. *Ophthalmology.* 2010;117(12):2435–2439.
- 5 Lee AG, Oetting TA, Blomquist PH, Bradford G, Culican SM, Kloek C, et al. A multicenter analysis of the ophthalmic knowledge assessment program and American Board of Ophthalmology written qualifying examination performance. *Ophthalmology.* 2012;119(10):1949–1953.