# **Ophthalmology Milestones**

The Accreditation Council for Graduate Medical Education





Second Revision: January 2020 First Revision: December 2015

Ophthalmology, ACGME Report Worksheet

## **Ophthalmology Milestones**

The Milestones are designed only for use in evaluation of resident's in the context of their participation in ACGME-accredited residency programs. The Milestones provide a framework for the assessment of the development of the resident in key dimensions of the elements of physician competency in a specialty or subspecialty. They neither represent the entirety of the dimensions of the six domains of physician competency, nor are they designed to be relevant in any other context.

#### **Ophthalmology Milestones**

#### Work Group

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American Board of Ophthalmology

ACGME Review Committee for Ophthalmology

### **Understanding Milestone Levels and Reporting**

This document presents the Milestones, which programs use in a semi-annual review of resident performance, and then report to the ACGME. Milestones are knowledge, skills, attitudes, and other attributes for each of the ACGME Competencies organized in a developmental framework. The narrative descriptions are targets for resident performance throughout their educational program.

Milestones are arranged into levels. Tracking from Level 1 to Level 5 is synonymous with moving from novice to expert resident in the specialty or subspecialty. For each reporting period, the Clinical Competency Committee will review the completed evaluations to select the milestone levels that best describe each learner's current performance, abilities, and attributes for each subcompetency.

These levels *do not* correspond with post-graduate year of education. Depending on previous experience, a junior resident may achieve higher levels early in his/her educational program just as a senior resident may be at a lower level later in his/her educational program. There is no predetermined timing for a resident to attain any particular level. Residents may also regress in achievement of their milestones. This may happen for many reasons, such as over scoring in a previous review, a disjointed experience in a particular procedure, or a significant act by the resident.

Selection of a level implies the resident substantially demonstrates the milestones in that level, as well as those in lower levels (see the diagram on page vi).

#### Additional Notes

Level 4 is designed as a graduation *goal* but *does not* represent a graduation *requirement*. Making decisions about readiness for graduation and unsupervised practice is the purview of the program director. Level 5 is designed to represent an expert resident whose achievements in a subcompetency are greater than the expectation. Milestones are primarily designed for formative, developmental purposes to support continuous quality improvement for individual learners, education programs, and the specialty. The ACGME and its partners will continue to evaluate and perform research on the Milestones to assess their impact and value.

Examples are provided for some milestones within this document. Please note: the examples are not the required element or outcome; they are provided as a way to share the intent of the element.

Some milestone descriptions include statements about performing independently. These activities must occur in conformity to ACGME supervision guidelines as described in the Program Requirements, as well as to institutional and program policies. For example, a resident who performs a procedure independently must, at a minimum, be supervised through oversight.

A Supplemental Guide is also available to provide the intent of each subcompetency, examples for each level, assessment methods or tools, and other available resources. The Supplemental Guide, like examples contained within the Milestones, is designed only to assist the program director and Clinical Competency Committee, and is not meant to demonstrate any required element or outcome.

Additional resources are available in the <u>Milestones</u> section of the ACGME website. Follow the links under "What We Do" at <u>www.acgme.org</u>.

The diagram below presents an example set of milestones for one sub-competency in the same format as the ACGME Report Worksheet. For each reporting period, a resident's performance on the milestones for each sub-competency will be indicated by selecting the level of milestones that best describes that resident's performance in relation to those milestones.

Systems-based Practice 1: Patient Safety and Quality Improvement				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common patient safety events	Identifies system factors that lead to patient safety events	Participates in analysis of patient safety events (simulated or actual)	Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems (actual or simulated)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Discloses patient safety events to patients and families (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
Demonstrates knowledge of basic quality improvement methodologies and metrics	Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	Participates in local quality improvement initiatives	Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project	Creates, implements, and assesses quality improvement initiatives at the institutional or community level
Comments:			Not Yet C	ompleted Level 1
Selecting a response box in the middle of a level implies that milestones in that level and in lower levels have been substantially demonstrated.			Selecting a response between levels indice in lower levels have demonstrated as we milestones in the hi	cates that milestones been substantially ell as <b>some</b>

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Level 1	Level 2	Level 3	Level 4	Level 5
Acquires relevant problem-focused history, including outside medical records	Performs problem- focused exam with appropriate techniques (e.g., gonioscopy and scleral depression), consistently identifies common abnormalities on examination; may identify subtle findings	Identifies subtle or uncommon examination findings of common disorders and typical or common findings of rarer disorders	Orders and interprets advanced diagnostic tests and imaging procedures according to evidence-based medicine (i.e., when and when not to order testing)	Demonstrates expertise in advanced diagnostic tests and imaging
Performs and documents a comprehensive ophthalmic examination; distinguishes between normal and abnormal findings	Orders, performs, and interprets basic testing (e.g., visual field testing, Optical Coherence Tomography, B-scan)	Interprets unusual findings on routine testing, identifies artifacts; recognizes indications for advanced diagnostic tests and imaging procedures (e.g., specular microscopy, electroretinography)		

Level 1	Level 2	Level 3	Level 4	Level 5
Acquires relevant problem-focused history, including outside medical records	Triages consult requests Performs a complete	Manages consultations (including coordination of care) requiring surgical intervention, including procedural options and timing; requests	Manages consultations (including coordination of care) requiring surgical intervention, including procedural options and timing;	Oversees the consultation process and manages interdisciplinary systems issues affecting patient care
Performs inpatient consultation, with direct supervision	examination	ophthalmic subspecialty advice, with indirect supervision	requests ophthalmic subspecialty input, with oversight	
	Recognizes ophthalmic emergencies and initiates non-surgical treatment plan, with indirect	Manages ophthalmic emergencies with non- surgical and surgical treatment, with indirect	Manages ophthalmic emergencies with non- surgical and surgical treatment, with	
	supervision	supervision	oversight	

Patient Care 3: Office-Ba	ased Procedures			
Level 1	Level 2	Level 3	Level 4	Level 5
Describes essential components of care related to office-based procedures (e.g., informed consent, indications and contraindications, anesthesia, sterile procedure prep)	Administers anesthesia and performs procedure, with direct supervision Recognizes and manages intra- and post-operative complications, with direct supervision	Administers anesthesia and performs procedure, with indirect supervision Manages intra- and post- operative complications, with indirect supervision	Administers anesthesia and performs procedure, with oversight Manages intra- and post-operative complications, with oversight	Incorporates recent advancements in technologies or techniques
Comments:				ompleted Level 1

Patient Care 4: Cataract Surgery – Technical Skill				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies visually significant cataract	Assesses patients for routine cataract surgery	Assesses patients for complex cataract surgery	Assesses patients who are candidates for refractive intraocular lenses to correct astigmatism and/or provide near correction	Assesses patients for intraocular lenses complications requiring a more complex intervention
Demonstrates ability to scrub, prep and drape patient for surgery; performs basic suturing skills	Performs elements of cataract surgery in the hands-on surgical skills laboratory and in the operating room (OR)	Performs routine cataract surgery in the OR	Performs cataract surgery requiring complex technical maneuvers (e.g., pupil expander, capsular tension ring)	Performs lens surgery for patients with complications requiring a more complex intervention (e.g., sutured intraocular lenses)
	Manages common post- operative complications (e.g., post-op pain, high intraocular pressure)	Manages common intra- and post-operative complications (e.g., posterior capsule rupture, wound leak)	Manages complex intra- and post-operative complications (e.g., endophthalmitis)	Manages rare and complex intra- and post- operative complications (e.g., aqueous misdirection, suprachoroidal hemorrhage)
Comments:				ompleted Level 1

Level 1	Level 2	Level 3	Level 4	Level 5
	Identifies patients for routine extraocular surgery	Develops a pre-operative plan for routine extraocular surgery	Develops a pre- operative plan for complex extraocular surgery	Assess patients and develops a pre-operative plan for complex/ multidisciplinary extraocular surgery (e.g., nerve sheath decompression, vessel sparing strabismus)
Demonstrates ability to scrub, prep and drape patient for surgery; performs basic suturing skills	Performs simple extraocular surgery (e.g., simple lid laceration repair, nasolacrimal duct probing)	Performs routine extraocular surgery (e.g., complex lid laceration repair, horizontal strabismus, ptosis)	Performs complex extraocular surgery (e.g., vertical strabismus), with assistance	Performs complex extraocular surgery
Identifies common post- operative complications (e.g., post-op pain, bleeding)	Manages common post- operative complications	Manages intra- and post- operative complications (e.g., bleeding, perforation)	Manages complex intra- and post-operative complications (e.g., infection, retrobulbar hemorrhage)	

Patient Care 6: Intraocular Surgery (Cornea, Retina, Glaucoma)				
Level 1	Level 2	Level 3	Level 4	Level 5
	Assesses patients for routine intraocular surgery	Assesses patients for complex intraocular surgery	Assesses patients for multispecialty intraocular surgeries	Assess patients requiring surgery from multiple disciplines (e.g., plastic surgery, facial trauma)
Demonstrates ability to scrub, prep and drape patient for surgery; performs basic suturing skills	Performs routine intraocular surgery in the hands-on surgical skills laboratory	Assists in subspecialty intraocular surgery	Performs routine intraocular surgery	Performs complex intraocular surgery
	Manages common post- operative complications (e.g., post-op pain, high intraocular pressure)	Manages common intra- operative complications (e.g., flat chamber, wound leak, hyphema)	Manages complex intra- and post-operative complications (e.g., re- bubble graft, blebitis)	Manages rare and complex intra- and post- operative complications (e.g., tube erosion, proliferative vitreoretinopathy)
Comments:				ompleted Level 1

Medical Knowledge 1: Pa	athophysiology			
Level 1	Level 2	Level 3	Level 4	Level 5
Articulates knowledge of pathophysiology and clinical findings for ophthalmic conditions routinely managed by non-ophthalmologists	Demonstrates basic knowledge of pathophysiology and clinical findings for common ophthalmic conditions routinely managed by ophthalmologists	Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered ophthalmic conditions; demonstrates basic knowledge of pathophysiology and clinical findings for uncommon conditions	Demonstrates advanced knowledge of pathophysiology and clinical findings for uncommon ophthalmic conditions	Contributes new knowledge for pathophysiology and clinical findings for ophthalmic conditions (e.g., publication, curriculum development)
Comments:				ompleted Level 1

Medical Knowledge 2: D	ifferential Diagnosis			
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies resources to generate a focused differential	Generates comprehensive differential diagnosis based on patient symptoms and history; documents and presents differential in oral presentation clearly and concisely	Generates refined differential based on patient symptoms, history and examination findings, distinguishing between common and uncommon conditions	Generates probabilistic differential diagnosis in patients with multiple ocular and medical comorbidities; modifies likely differential with new information from additional testing	Recognizes, self-reflects, and shares experiences to educate others on factors that contributed to missed diagnosis or faulty clinical reasoning (e.g., publication, curriculum development)
Generates a basic differential diagnosis based on patient symptoms and history	Describes diagnostic tests to aid in the differential diagnosis	Selects additional diagnostic testing to distinguish between conditions on the differential	Articulates the rationale for ordering diagnostic testing in hierarchical fashion based upon probabilistic differential	
Comments:			Not Yet C Not Yet A	ompleted Level 1

Medical Knowledge 3: Tl	nerapeutic Interventions			
Level 1	Level 2	Level 3	Level 4	Level 5
Describes basic concepts of ophthalmic pathophysiology and pharmacology	Explains relevant pathophysiology and lists indications and contraindications for planned medical therapy	Identifies and describes side effects of medical therapies and ways to minimize potential complications	Describes and articulates the rationale for using emerging alternative medical therapies	Participates in the development and dissemination of novel therapies or interventions
Describes basic ophthalmic anatomy and categories of procedural interventions	Explains indications, contraindications, and relevant steps required for procedural intervention (e.g., anesthesia, technique, instruments)	Identifies and describes causes of complications and alternatives for routine procedural interventions	Describes and articulates the rationale for using novel alternative procedural interventions	
Comments:			Not Yet C Not Yet As	ompleted Level 1

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common patient safety events	Identifies system factors that lead to patient safety events	Participates in analysis of patient safety events (simulated or actual)	Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems (simulated or actual)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Discloses patient safety events to patients and families (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
Demonstrates knowledge of basic quality improvement methodologies and metrics	Describes local quality improvement initiatives (e.g., eye protection for high risk activities, diabetic eye screening)	Participates in local quality improvement initiatives	Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project	Creates, implements, and assesses quality improvement initiatives at the institutional or community level

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of care coordination	Coordinates care of patients in routine clinical situations effectively using the roles of the interprofessional teams	Coordinates care of patients in complex clinical situations effectively using the roles of their interprofessional teams	Teaches effective coordination of patient- centered care among different disciplines and specialties to junior members of the team	Analyzes the process of care coordination and leads in the design and implementation of improvements
Identifies key elements for safe and effective transitions of care and hand-offs	Performs safe and effective transitions of care/hand-offs in routine clinical situations	Performs safe and effective transitions of care/hand-offs in complex clinical situations	Advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems	Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes
Demonstrates knowledge of the role of the physician in addressing community health needs and disparities	Demonstrates knowledge of local population and community health needs and disparities	Identifies specific local health needs and disparities related to ophthalmic care	Uses local resources effectively to meet the needs of a patient population and community	Participates in changing and adapting practice to provide for the needs of specific populations

Systems-Based Practice 3: Physician Role in Health Care Systems					
Level 1	Level 2	Level 3	Level 4	Level 5	
Describes basic health care systems and access models (e.g., government, private, public, uninsured care)	Describes how different system types require the physician to deliver care effectively with available resources	Optimizes patient care given available resources	Advocates for patient care needs beyond patients' available resources (e.g., community resources, patient assistance resources, telehealth)	Participates in health policy advocacy activities	
Demonstrates use of electronic medical record	Identifies the documentation required for billing and coding compliance	Describes knowledge domains for effective transition to practice (e.g., information technology, legal, billing and coding)	Demonstrates administrative knowledge needed for transition to practice (e.g., contract negotiations, malpractice insurance, government regulation, compliance)	Analyzes individual practice patterns and professional requirements in preparation for practice	
Comments:	Comments: Not Yet Completed Level 1				

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Practice-Based Learning	and Improvement 1: Evide	ence-Based and Informed F	Practice	
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates how to access and use available evidence, and incorporate patient preferences and values in order to take care of a routine patient	Articulates clinical questions and elicits patient preferences and values in order to guide evidence-based care	Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient	Coaches others to critically appraise and apply evidence for complex patients; and/or participates in the development of patient care guidelines
Comments:			Not Yet C	ompleted Level 1

Level 1	Level 2	Level 3	Level 4	Level 5
Accepts responsibility for personal and professional development by establishing goals; actively seeks opportunities to improve	Demonstrates openness to performance data (feedback and other input) in order to inform goals; designs and implements a learning plan, with guidance	Seeks performance data and accepts it with responsibility and equipoise; demonstrates implementation of a learning plan	Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it	Facilitates the design and implementing learning plans for others
Identifies the factors which contribute to gap(s) between expectations and actual performance	Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance	Coaches others on reflective practice

Professionalism 1: Profe	ssional Behavior and Ethic	al Principles		
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies and describes potential triggers for professionalism lapses	Demonstrates insight into professional behavior in routine situations	Demonstrates professional behavior in complex or stressful situations	Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others	Coaches others when their behavior fails to meet professional expectations
Describes when and how to appropriately report professionalism lapses, including strategies for addressing common barriers	Takes responsibility for own professionalism lapses	Recognizes need to seek help in managing and resolving complex ethical situations	Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature	Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution
Demonstrates knowledge of the ethical principles underlying informed consent, surrogate decision making, advance directives, confidentiality, error disclosure, stewardship of limited resources, and related topics	Analyzes straightforward situations using ethical principles	Analyzes complex situations using ethical principles	review, risk management/legal consultation)	
Comments:			Not Yet C	ompleted Level 1

Professionalism 2: Acco	untability/Conscientiousne	SS			
Level 1	Level 2	Level 3	Level 4	Level 5	
Takes responsibility for failure to complete tasks and responsibilities, identifies potential contributing factors, and describes strategies for ensuring timely task completion in the future	Performs tasks and responsibilities in a timely manner with attention to detail in routine situations	Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations	Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner	Takes ownership of system outcomes, attempts to implement changes at a systems level in order to advance the goals of professional accountability	
Responds promptly to requests or reminders to complete tasks and responsibilities	Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	Recognizes detrimental consequences when tasks and responsibilities are not completed in a timely manner (e.g., team members, compliance)	Proactively implements strategies to ensure that the needs of patients, teams, and systems are met		
Comments:			Not Yet C	ompleted Level 1	

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes status of personal and professional well-being, with assistance Recognizes limits in the knowledge/skills of self and/or team, with assistance	Independently recognizes status of personal and professional well-being Independently recognizes limits in the knowledge/ skills of self and/or team; demonstrates appropriate help-seeking behaviors for self or others	With assistance, proposes a plan to optimize personal and professional well-being With assistance, proposes a plan to improve knowledge/skills of self and/or team	Independently develops a plan to optimize personal and professional well-being Independently develops a plan to improve the knowledge/skills of self and/or team	Coaches others when emotional responses or limitations in knowledge/skills do not meet professional expectations

Interpersonal and Comm	unication Skills 1: Patient	and Family-Centered Com	nunication		
Level 1	Level 2	Level 3	Level 4	Level 5	
Uses language and nonverbal behavior to demonstrate respect and establish rapport	Establishes a therapeutic relationship in straightforward encounters using active listening and clear language	Establishes a therapeutic relationship in challenging patient encounters (e.g., breaking bad news)	Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity	Mentors others in situational awareness and critical self-reflection to consistently develop positive therapeutic relationships	
Identifies barriers to effective communication (e.g., health literacy, language, disability, cultural) while accurately communicating own role within the health care system	Addresses barriers to effective communication	When prompted, reflects on personal biases while attempting to minimize communication barriers	Role models self- awareness to minimize communication barriers		
Comments:	Comments: Not Yet Completed Level 1				

Interpersonal and Communication Skills 2: Interprofessional and Team Communication					
Level 1	Level 2	Level 3	Level 4	Level 5	
Uses language that values all members of the health care team	Communicates information effectively and uses active listening with all health care team members	Communicates concerns to the team and learners	Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed		
Accepts feedback on performance from all members of the health care team (e.g., nurses, staff members, peers)	Solicits feedback on performance as a member of the health care team	Provides feedback and constructive criticism to peers and learners	Provides feedback and constructive criticism to superiors	Facilitates regular health care team-based feedback in complex situations	
Comments:	Comments: Not Yet Completed Level 1				

Level 1	Level 2	Level 3	Level 4	Level 5
Accurately records information in the medical record	Demonstrates organized diagnostic and therapeutic reasoning through notes in the medical record	Communicates clearly and concisely, including anticipatory guidance, in the medical record	Provides feedback to improve others' written communication	
Aware of the role of communication in patient safety and privacy; safeguards patient personal health information	Appropriately selects forms of communication (e.g., telephone versus text) to promote patient safety and privacy	Avoids creating or propagating errors in the medical record through accurate use of documentation tools	Provides feedback and constructive criticism regarding compliance with patient privacy and safety	Facilitates dialogue regarding systems issues among larger community stakeholders (institution, health care system, field)
Aware of responsibility to report system deficiencies	Identifies appropriate channels to communicate system deficiencies	Uses appropriate channels to communicate system deficiencies	Offers clear and constructive suggestions to address system deficiencies	Guides departmental or institutional communication around policies and procedures
Comments:				