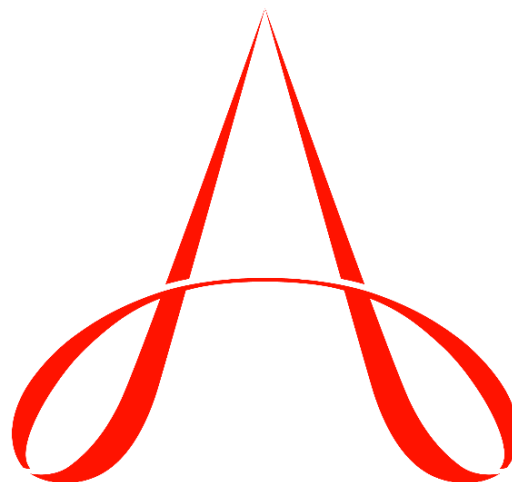# Forensic Pathology Milestones

The Accreditation Council for Graduate Medical Education

ACGME

Implementation Date: July 1, 2021
Second Revision: November 2020
First Revision: May 2014

Forensic Pathology Milestones

The Milestones are designed only for use in evaluation of fellows in the context of their participation in ACGME-accredited residency or fellowship programs. The Milestones provide a framework for the assessment of the development of the fellow 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.

Forensic Pathology Milestones Work Group

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The ACGME would like to thank the following organizations for their continued support in the development of the Milestones:

American Board of Pathology

Review Committee for Pathology

Understanding Milestone Levels and Reporting

This document presents the Milestones, which programs use in a semi-annual review of fellow 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/fellow 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 fellow 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 fellow may achieve higher levels early in his/her educational program just as a senior fellow 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. Fellows 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 fellow.

Selection of a level implies the fellow 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. Furthermore, Milestones 2.0 include revisions and changes that preclude using Milestones as a sole assessment in high-stakes decisions (i.e., determination of eligibility for certification or credentialing). Level 5 is designed to represent an expert fellow 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.

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 fellow 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.

Supplemental Guides and other resources are available on the Milestones page of each specialty section of the ACGME website. On www.acgme.org, choose the applicable specialty under the "Specialties" menu, then select the "Milestones" link in the lower navigation bar.

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 fellow's performance on the milestones for each sub-competency will be indicated by selecting the level of milestones that best describes that fellow's performance in relation to those milestones.

Practice-Based Learning and Improvement 2: Commitment to Reflective Practice and Personal Growth

Level 1	Level 2	Level 3	Level 4	Level 5
Establishes personal and professional goals, identifying gap(s) between goals and current performance	Demonstrates receptiveness to feedback, analyzing and reflecting on factors contributing to gap(s) between goals and current performance	Seeks feedback episodically, and institutes behavioral change(s) when necessary	Seeks feedback consistently, and sustains behavioral change as necessary	Role models consistently seeking performance data with adaptability and humility, and coaches others on reflective practice
	Designs and implements a learning plan, with prompting	Independently creates and implements an individualized 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

Not Yet Completed Level 1 ☐

Comments:

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 box on the line in between levels indicates that milestones in lower levels have been substantially demonstrated as well as **some** milestones in the higher level(s).

Patient Care 1: Death Investigation				
Level 1	Level 2	Level 3	Level 4	Level 5
Explains the necessity and required aspects of a scene investigation	Assists with a scene investigation	With supervision, leads a routine scene investigation	Independently leads a routine scene investigation	Independently leads a complex scene investigation
Evaluates a medical record in preparation for an autopsy	Identifies additional sources of information necessary for a death investigation	Independently synthesizes pertinent information from multiple sources	Independently identifies missing information that needs to be gathered	
Identifies types of postmortem examinations and medical examiner/coroner notification criteria	Explains when cases fall under the jurisdiction of the medical examiner/coroner, including laws about religious and/or other objections to autopsy	With supervision, determines which cases should be accepted for examination and what type of examination is most appropriate	Independently determines which cases should be accepted for examination and what type of examination is most appropriate	

Comments:

Not Yet Completed Level 1 ☐

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Patient Care 2: Autopsy (External and Internal Examination)

Level 1	Level 2	Level 3	Level 4	Level 5
With technical assistance, performs routine evisceration and dissection	Independently performs routine evisceration and dissection, and identifies cases requiring special techniques	With supervision, performs complex evisceration and dissection, including special techniques	Independently performs complex evisceration and dissection, including special techniques	
With supervision, collects and submits evidence for a routine case	Independently identifies, collects, and submits evidence for a routine case	With supervision, identifies, collects, and submits evidence for a complex case	Independently identifies, collects, and submits evidence for a complex case	
With supervision, documents autopsy findings (including photography) for a routine case	Independently documents autopsy findings for a routine case	With supervision, documents autopsy findings for a complex case	Independently documents autopsy findings for a complex case	Reconstructs case findings from the documentation of others to form independent opinion for a complex case

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Not Yet Completed Level 1 ☐

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Medical Knowledge 1: Death Certification and Reporting				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies the differences between cause and manner of death	Synthesizes findings to opine on cause and manner of death in routine cases	Describes the subtleties in death certification in complex cases	Synthesizes findings to opine in complex cases with multiple competing causes and/or manners of death	
Drafts a timely, organized written report for a routine case	Synthesizes and prioritizes findings for a routine case into a timely, written report	Synthesizes and prioritizes findings for a complex case into a timely written report with editorial assistance	Synthesizes and prioritizes findings for a complex case into a timely written report that needs minimal editing	Independently generates a nuanced report that expresses the ambiguity and uncertainty for a complex case

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Comments:

Not Yet Completed Level 1   ☐

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Medical Knowledge 2: Recognition and Interpretation of Autopsy Findings and Ancillary Studies

Level 1	Level 2	Level 3	Level 4	Level 5
Describes common artifacts (e.g., post mortem change, medical intervention, organ/tissue procurement)	Identifies distinguishing features of common artifacts	Interprets common artifacts in the context of the case	Consistently differentiates injury patterns from artifacts	
Describes categories of injuries (e.g., blunt force, sharp force, penetrating)	Identifies distinguishing features of injuries (e.g., undermining, bridging)	Identifies details and patterns of injuries (e.g., range of gunshot wound)	Interprets multiple/variable injuries in a single case	Interprets multiple, complex injuries with significant artifacts
Describes available ancillary studies (e.g., histology, microbiology, molecular, radiology, toxicology)	Performs proper specimen collection, preservation, and submission	Recognizes case scenarios in which ancillary studies are indicated	Independently orders and interprets ancillary study results and incorporates into report	Independently identifies trends in ancillary study results that advance medical knowledge and public health

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Comments:

Not Yet Completed Level 1   ☐

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Medical Knowledge 3: Clinical Reasoning				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates a basic framework for clinical reasoning	Demonstrates clinical reasoning to determine relevant information	Synthesizes information to inform clinical reasoning, with assistance	Independently synthesizes information to inform clinical reasoning in complex cases	Demonstrates intuitive approach to clinical reasoning for complex cases
Identifies appropriate resources to inform clinical reasoning	Selects relevant resources based on scenario to inform decisions	Seeks and integrates evidence-based information to inform diagnostic decision making in complex cases, with assistance	Independently seeks out, analyzes, and applies relevant original research to diagnostic decision making in complex clinical cases	

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Systems-Based Practice 1: Safety and Quality Improvement (QI)				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common safety events (e.g., body or specimen misidentification/ mislabeling)	Identifies system factors that lead to safety events	Participates in analysis of safety events (simulated or actual)	Conducts analysis of safety events and offers error prevention strategies (simulated or actual)	Actively engages teams and processes to modify systems to prevent safety events
Demonstrates knowledge of how to report safety events (e.g., release of wrong body, reportable infectious disease)	Reports safety events through institutional reporting systems (simulated or actual)	Participates in disclosure of safety events to clinicians, families, and community as appropriate (simulated or actual)	Discloses safety events to clinicians, families, and community as appropriate (simulated or actual)	Role models or mentors others in the disclosure of safety events
Demonstrates knowledge of basic QI methodologies and metrics	Describes departmental and institutional QI initiatives	Participates in departmental and institutional QI initiatives	Demonstrates the skills required to identify, develop, implement, and analyze a QI project	Creates, implements, and assesses QI initiatives at the institutional or community level

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Not Yet Completed Level 1 ☐

Systems-Based Practice 2: Systems Navigation for Patient-Centered Care

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of case coordination	Coordinates routine cases effectively using interprofessional teams	Coordinates complex cases effectively using interprofessional teams	Models effective coordination of cases among different disciplines and specialties	Analyzes the process of care coordination and leads 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 situations (e.g., transition from investigator to pathologist, release to funeral home)	Performs safe and effective transitions of care/hand-offs in complex situations (e.g., transfer of materials for outside testing or consultation)	Models and advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems (e.g., organ transplantation, genetic findings to family)	Improves quality of transitions of care within and across health care delivery systems to optimize outcomes
Demonstrates knowledge of population and community health needs and disparities	Identifies pathology's role in population and community health needs and inequities for the local population	Identifies opportunities for pathology to participate in community and population health	Recommends and/or participates in changing and adapting practice to provide for the needs of communities and populations	Leads innovations and advocates for populations and communities with health care inequities

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Systems-Based Practice 3: Physician Role in Health Care System				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Identifies key components of the complex health care system (e.g., medical examiner, coroner, public health, laboratory)	Describes how components of a complex health care system are interrelated, and how this impacts patient care	Discusses how individual practice affects the broader system (e.g., test use, turnaround time)	Manages various components of the complex health care system to provide efficient and effective patient care and transition of care	Advocates for or leads systems change that enhances high-value, efficient, and effective patient care and transition of care
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Comments:

Not Yet Completed Level 1   ☐

Systems-Based Practice 4: Accreditation, Compliance, and Quality

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of accrediting agencies and compliance for hospital-based laboratories	Demonstrates knowledge of the accrediting agencies for death investigation offices and forensic laboratories	Identifies the differences between accreditation and regulatory compliance; discusses the process for achieving accreditation and maintaining regulatory compliance	Participates in an internal or external laboratory inspection (mock or actual)	Serves as a resource for accreditation at the regional or national level
Discusses the need for quality control	Interprets quality data and charts and trends, with assistance	Demonstrates knowledge of the components of a laboratory quality management plan	Reviews the quality management plan to identify areas for improvement	Creates and follows a comprehensive quality management plan

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Not Yet Completed Level 1   ☐

Systems-Based Practice 5: Utilization

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies general pathology work practices and workflow (e.g., histology, immunohistochemistry stains, chemical tests)	Explains rationale for optimizing utilization	Identifies opportunities to optimize utilization of pathology resources	Initiates efforts to optimize utilization	Completes a utilization review and implements change
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Comments:

Not Yet Completed Level 1   ☐

Practice-Based Learning and Improvement 1: Evidence-Based Practice and Scholarship

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates how to access and select applicable evidence (e.g., literature, guidelines)	Identifies and applies the best available evidence to guide diagnostic work-up of simple cases	Identifies and applies the best available evidence to guide diagnostic work-up of complex cases	Critically appraises and applies evidence to guide care, even in the face of conflicting data	Teaches others to critically appraise and apply evidence for complex cases; and/or participates in the development of guidelines
Is aware of the need for patient privacy, autonomy, and consent as applied to clinical research	Develops knowledge of the basic principles of research (demographics, Institutional Review Board, human subjects), including how research is evaluated, explained to patients, and applied to patient care	Applies knowledge of the basic principles of research such as informed consent and research protocols to clinical practice, with supervision	Proactively and consistently applies knowledge of the basic principles of research such as informed consent and research protocols to clinical practice	Suggests improvements to research regulations and/or substantially contributes to the primary literature through basic, translational, or clinical research

Comments:

Not Yet Completed Level 1 ☐

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth

Level 1	Level 2	Level 3	Level 4	Level 5
Accepts responsibility for personal and professional development by establishing goals	Demonstrates openness to receiving performance data and feedback in order to inform goals	Seeks performance data and feedback with humility	Actively and consistently seeks performance data and feedback with humility	Models seeking performance data and accepting feedback with humility
Identifies the gap(s) between expectations and actual performance	Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance	Institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	Critically evaluates the effectiveness of behavioral changes in narrowing the gap(s) between expectations and actual performance	Coaches others reflective practice
Actively seeks opportunities to improve	Designs and implements a learning plan, with assistance	Independently creates and implements a learning plan	Uses performance data to measure the effectiveness of the learning plan and improves it when necessary	Facilitates the design and implementing learning plans for others

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Comments:

Not Yet Completed Level 1   ☐

Professionalism 1: Professional Behavior and Ethical Principles

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of the ethical principles underlying the practice of medicine	Analyzes straightforward situations using ethical principles	Recognizes the need and uses appropriate resources to seek help in managing and resolving complex ethical situations	Independently resolves and manages complex ethical situations	Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution
Describes when and how to appropriately report professionalism lapses, including strategies for addressing common barriers; identifies and describes potential triggers for professionalism lapses	Demonstrates insight into professional behavior in routine situations; takes responsibility for own professionalism lapses	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

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Comments:

Not Yet Completed Level 1   ☐

Professionalism 2: Accountability and Conscientiousness				
Level 1	Level 2	Level 3	Level 4	Level 5
Responds promptly to instructions, requests, or reminders to complete tasks and responsibilities	Takes appropriate ownership and performs tasks and responsibilities in a timely manner with attention to detail	Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner and describes the impact on team	Anticipates and intervenes in situations that may impact others' ability to complete tasks and responsibilities in a timely manner	Designs new strategies to ensure that the needs of patients, teams, and systems are met
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Comments:

Not Yet Completed Level 1   ☐

Professionalism 3: Self-Awareness and Help-Seeking				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes limitations in the knowledge/skills/ behaviors of self or team, with assistance	Independently recognizes limitations in the knowledge/skills/ behaviors of self or team and seeks help when needed	Proposes and implements a plan to remediate or improve the knowledge/ skills/behaviors of self or team, with assistance	Independently develops and implements a plan to remediate or improve the knowledge/skills/ behaviors of self or team	Serves as a resource or consultant for developing a plan to remediate or improve the knowledge/ skills/behaviors
Recognizes status of personal and professional well-being, with assistance	Independently recognizes status of personal and professional well-being and seeks help when needed	Proposes and implements a plan to optimize personal and professional well-being, with assistance	Independently develops and implements a plan to optimize personal and professional well-being	Coaches others when responses or limitations in knowledge/skills do not meet professional expectations
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Comments:

Not Yet Completed Level 1 ☐

This subcompetency is not intended to evaluate a fellow's well-being. Rather, the intent is to ensure that each fellow has the fundamental knowledge of factors that affect well-being, the mechanisms by which those factors affect well-being, and available resources and tools to improve well-being.

Interpersonal and Communication Skills 1: Family-Centered Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Uses language and nonverbal behavior to demonstrate respect and establish rapport	Establishes a relationship in straightforward encounters using active listening and clear language	Sensitively and compassionately delivers medical information, with assistance	Independently, sensitively, and compassionately delivers medical information and acknowledges uncertainty and conflict	Mentors others in the sensitive and compassionate delivery of medical information
Identifies common barriers to effective communication (e.g., language, disability) while accurately communicating own role within the health care system	Identifies complex barriers to effective communication (e.g., health literacy, cultural)	When prompted, reflects on personal biases while attempting to minimize communication barriers	Independently recognizes personal biases while attempting to proactively minimize communication barriers	Models self-awareness while teaching a contextual approach to minimize communication barriers
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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 team	Communicates information effectively with all team members	Uses active listening to adapt communication style to fit team needs	Coordinates recommendations from different members of the team to optimize patient care	Models flexible communication strategies that value input from all team members, resolving conflict when needed
Describes the utility of constructive feedback	Solicits feedback on performance as a member of the team	Integrates feedback from team members to improve communication	Communicates feedback and constructive criticism to superiors	Facilitates regular team-based feedback in complex situations

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Comments:

Not Yet Completed Level 1 ☐

Interpersonal and Communication Skills 3: Systems Communication

Level 1	Level 2	Level 3	Level 4	Level 5
Safeguards patient personal health information by communicating through appropriate means as required by institutional policy (e.g., cell phone/pager usage)	Appropriately selects forms of communication based on context and urgency of the situation	Communicates while ensuring security of personal health information, with guidance	Independently communicates while ensuring security of personal health information	Guides departmental or institutional communication around policies and procedures regarding the security of personal health information
Identifies institutional and departmental structure for communication of issues	Respectfully communicates concerns about the system	Uses institutional structure to effectively communicate clear and constructive suggestions to improve the system	Initiates conversations on difficult subjects with appropriate stakeholders to improve the system	Facilitates dialogue regarding systems issues among larger community stakeholders (institution, health care system, field)

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Comments:

Not Yet Completed Level 1   ☐

Interpersonal and Communication Skills 4: Medicolegal Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Discusses the role of the forensic pathologist in the criminal justice system	Observes a court proceeding after reviewing the case	Meets with attorneys and/or law enforcement to discuss the case findings	Prepares and presents testimony for a routine case proceeding (actual or mock)	Prepares and presents testimony for a complex case proceeding
Discusses the role of the forensic pathologist in public health, safety, and disaster planning	With assistance, reports findings related to public health or safety to appropriate agency	Independently reports findings related to public health or safety to appropriate agency	Participates in a multidisciplinary team involving public health or safety (e.g., child death review, disaster planning)	Leads a multidisciplinary team involving public health or safety
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Comments:

Not Yet Completed Level 1 ☐