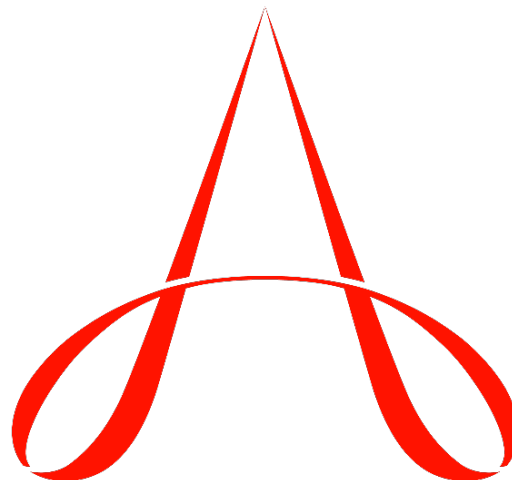


Hematology Milestones

The Accreditation Council for Graduate Medical Education



ACGME

Second Revision: August 2019

First Revision: October 2014

Hematology 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.

Hematology Milestones

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American Board of Internal Medicine

American Society of Clinical Oncology

American Society of Hematology

ACGME Review Committee for Internal Medicine

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 resident/fellow.

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

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.

Systems-based Practice 2: System Navigation for Patient Centered Care: Coordination and Transitions of Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of care coordination	Coordinates care of patients in routine clinical situations effectively utilizing the roles of their interprofessional teams	Coordinates care of patients in complex clinical situations effectively utilizing the roles of their interprofessional teams	Role models effective coordination of patient-centered care among different disciplines and specialties	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 handoffs	Performs safe and effective transitions of care/handoffs in routine clinical situations	Performs safe and effective transitions of care/handoffs in complex clinical situations	Role models and advocates for safe and effective transitions of care/handoffs within and across healthcare delivery systems including outpatient settings	Improves quality of transitions of care within and across healthcare delivery systems to optimize patient outcomes
☐	☐	☐	☐	☐
Comments: Not Yet Completed 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 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: Accesses Data Sources to Synthesize Patient and Disease Specific Information Necessary for Clinical Assessment				
Level 1	Level 2	Level 3	Level 4	Level 5
Accesses data and gathers a history standard for general internal medicine	Gathers a disease-specific history, with assistance	Accesses data from multiple sources and collects disease-specific history, including psychosocial issues, from the patient and family members	Consistently synthesizes data from multiple sources and collects a disease-specific history from the patient and family members	Role models gathering and synthesis of clinical information
Performs a physical examination standard for general internal medicine	Performs a disease-specific physical examination, with assistance	Completes a disease-specific physical examination	Consistently completes a disease-specific physical examination	
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Patient Care 2: Diagnoses and Assigns Stage and Severity of Hematology Disorders				
Level 1	Level 2	Level 3	Level 4	Level 5
Generates a differential diagnosis expected of a graduating internal medicine resident	Interprets initial diagnostic studies to generate a specialty-specific differential diagnosis	Orders advanced diagnostic studies for common disorders when appropriate	Diagnoses uncommon disorders and determines disease severity using evidence-based studies	Role models the assignments of stage and disease severity, informed by evidence-based studies and guidelines for specialty disorders
Orders testing without specialty-specific differential diagnosis	Determines stage of disorder	Determines clinical comorbidities		
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Patient Care 3: Formulates the Management Plan				
Level 1	Level 2	Level 3	Level 4	Level 5
Formulates a management plan for patients without comorbidities, with assistance	Formulates a management plan using decision-support tools for patients without comorbidities	Formulates a management plan with consideration of disease and patient factors and enrollment in clinical trials	Consistently formulates management plans that include consideration of clinical trial enrollment and conforms to patient preferences and goals of care	Serves as an expert in formulating management plans
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Patient Care 4: Adjusts Management Plans for Acute and Chronic Issues				
Level 1	Level 2	Level 3	Level 4	Level 5
Adjusts management plans according to standard guidelines and toxicities, with assistance	Adjusts management plans according to standard guidelines and toxicities	Adjusts management plans based on response to treatment, side effects of the treatment, and comorbidities	Adjusts management plans based on anticipation and recognition of subtle toxicities and long-term sequelae and/or changes in patient preferences and goals	Serves as an expert in developing and implementing pathways that influence management plans
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Patient Care 5: Competence in Procedures: • Performance of Bone Marrow Biopsies and Aspirations • Assessment and Interpretation of Complete Blood Count • Interpretation of Peripheral Blood Smears • Use of Systemic Therapies through all Therapeutic Routes				
Level 1	Level 2	Level 3	Level 4	Level 5
Discusses the indications for and assists with all required procedures	Performs all required procedures, with direct supervision	Competently performs all required procedures, with indirect supervision	Proficiently and independently performs all required procedures	Serves as an expert for all required procedures and their complications
Discusses potential procedural complications	Recognizes complications of procedures and enlists help	Manages complications of procedures, with supervision	Anticipates and independently manages complications of procedures	
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Patient Care

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____ Yes _____ No _____ Conditional on Improvement

Medical Knowledge 1: Non-Malignant Hematology (includes Pathophysiology, Diagnostics, Prognostic Information, and Treatment)				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of specialty disorders	Demonstrates expanding knowledge of specialty disorders and development of clinical reasoning	Demonstrates sufficient knowledge of specialty disorders and clinical reasoning skills to determine evidence-based interventions	Synthesizes advanced knowledge of specialty disorders and uses clinical reasoning skills to develop personalized interventions	Serves as a subject matter expert
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Medical Knowledge 2: Malignant Hematology (includes Pathophysiology, Diagnostics, Prognostic Information, and Treatment)				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of specialty disorders	Demonstrates expanding knowledge of specialty disorders and development of clinical reasoning	Demonstrates sufficient knowledge of specialty disorders and clinical reasoning skills to determine evidence-based interventions	Synthesizes advanced knowledge of specialty disorders and uses clinical reasoning skills to develop personalized interventions	Serves as a subject matter expert
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Medical Knowledge 3: Scholarly Activity				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies areas worthy of scholarly investigation	Formulates a scholarly plan under supervision of a mentor	Presents products of scholarly activity at local meetings	Disseminates products of scholarly activity at regional or national meetings, and/or submits an abstract to regional, state, or national meetings	Publication of independent research that has generated new medical knowledge, educational programs, or process improvement
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Medical Knowledge

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____ Yes _____ No _____ Conditional on Improvement

Systems-Based Practice 1: Patient Safety				
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 the analysis of patient safety events	Conducts analysis of patient safety events and offers error prevention strategies	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)	Leads disclosure of patient safety events to patients and families with documentation (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

Systems-Based Practice 2: Quality Improvement				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of basic quality improvement methodologies and metrics	Describes local quality improvement initiatives	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 Completed Level 1 ☐				

Systems-Based Practice 3: System Navigation for Patient-Centered Care: Coordination and Transitions of Care				
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 their interprofessional teams	Coordinates care of patients in complex clinical situations effectively using the roles of their interprofessional teams	Role models effective coordination of patient-centered care among different disciplines and specialties	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	Role models and advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems, including outpatient settings	Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

Systems-Based Practice 4: System Navigation for Patient-Centered Care: Population Health				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of population and community health care needs and disparities	Identifies specific population and community health care needs and disparities	Identifies local resources to meet community health care needs and disparities	Adapts practice to provide for the needs of specific populations	Leads innovations and advocates for populations and communities with health care disparities
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

Systems-Based Practice 5: Physician Role in Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies basic financial barriers for individual patients and basic financial components of the health care system	Considers financial barriers and quality of care when ordering diagnostic or therapeutic interventions	Incorporates value (quality/costs) into shared decision making, with interprofessional team input	Manages financial factors that affect a patient's access to care and decision making	Role models and teaches patients and interprofessional team members to consider value when making diagnostic and therapeutic recommendations
Identifies key components of the complex health care system	Describes how components of a complex health care system are inter-related, and how this impacts ordering therapeutic interventions	Discusses how individual practice and the broader system affect each other	Manages various components of the complex health care system to provide efficient and effective patient care	Advocates for or leads systems change that enhances high-value, efficient, and effective patient care
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

Systems-Based Practice

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____ Yes _____ No _____ Conditional on Improvement

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
With assistance, accesses available evidence and practice guidelines for patient care	Independently identifies available evidence and practice guidelines for patient care	Critically appraises evidence and applies to patient care	Applies best available evidence, even in the face of insufficient and/or conflicting information	Serves as a role model to critically appraise and apply evidence to patient care
☐	☐	☐	☐	☐
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
Identifies gaps in knowledge and performance	Reflects on the factors which contribute to gaps between expectations and actual performance	Institutes changes to narrow the gaps between expectations and actual performance	Intentionally seeks performance data to narrow the gaps between expectations and actual performance	Role models reflective practice
Actively seeks opportunities to improve	Designs and implements a learning plan, with assistance	Independently creates and implements a learning plan	Measures the effectiveness of the learning plan and makes appropriate changes	Facilitates the design and implementation of learning plans for others
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

Practice-Based Learning and Improvement

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____ Yes _____ No _____ Conditional on Improvement

Professionalism 1: Professional Behavior and Ethical Principles				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common ethical principles and potential triggers for professionalism lapses Describes when and how to appropriately report professionalism lapses	Analyzes straightforward situations using ethical principles Recognizes and takes responsibility for own professionalism lapses	Manages and resolves complex ethical situations, including personal lapses, with assistance	Intervenes and uses appropriate resources to prevent and manage professionalism lapses and dilemmas in self and others	Coaches others when their behavior fails to meet professional expectations
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

Professionalism 2: Accountability/Conscientiousness				
Level 1	Level 2	Level 3	Level 4	Level 5
Takes responsibility for failure to complete tasks	Performs tasks in a timely manner or provides notification when unable to complete tasks	Performs tasks in a timely manner with appropriate attention to detail in complex or stressful situations	Takes responsibility in situations that impact the ability of team members to complete tasks and responsibilities in a timely manner	Exceeds expectations for supporting team responsibilities
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

Professionalism 3: Fellow Well-Being				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes status of personal and professional well-being, with assistance	Independently recognizes status of personal and professional well-being	With assistance, proposes a plan to optimize personal and professional well-being	Independently develops a plan to optimize personal and professional well-being	Role models the continual ability to monitor and address personal and professional well-being Advocates for institutional changes to support well-being
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

Professionalism

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____ Yes _____ No _____ Conditional on Improvement

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies common barriers to effective communication	Identifies complex barriers to effective communication	Reflects on personal biases while attempting to minimize communication barriers	Proactively improves communication by addressing barriers including patient and personal biases	Role models communication that addresses barriers
Recognizes the need to adjust communication strategies based on context	Verifies patient/family understanding of the clinical situation to optimize effective communication	With guidance, uses shared decision making to align patient/family values, goals, and preferences with treatment options to make a personalized care plan	Independently, uses shared decision making to make a personalized care plan	Role models shared decision making in patient/family communication, including those with a high degree of uncertainty/conflict
☐	☐	☐	☐	☐
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 respectful communication (verbal, non-verbal) with all members of the health care team	Communicates effectively within and across all health care teams	Adapts communication style within and across all health care teams to ensure mutual understanding	Coordinates recommendations from different members of the health care team to optimize patient care	Role models flexible communication strategies that solicits and values input from all health care team members, resolving conflict when needed
Demonstrates openness to feedback	Responsive to feedback	Seeks and provides performance feedback	Uses feedback to improve own performance and provides actionable feedback to team members	Role models giving and receiving of feedback
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

Interpersonal and Communication Skills 3: Communication within Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Accurately records information in the patient record	Demonstrates organized diagnostic and medical reasoning through notes in the patient record	Documentation reflects level of complexity and severity of disease	Documentation reflects medical reasoning, patient preferences, and management recommendations and plans	Role models optimal documentation
Safeguards patient personal health information in communications	Appropriately selects forms of communication based on context	Communication includes key stakeholders	Achieves written or verbal communication that is exemplary	Guides departmental or institutional communication policies
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

Interpersonal and Communication Skills

The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.

_____ Yes _____ No _____ Conditional on Improvement

Overall Clinical Competence

This rating represents the assessment of the fellow's development of overall clinical competence during this year of training:

____ Superior: Far exceeds the expected level of development for this year of training

____ Satisfactory: Always meets and occasionally exceeds the expected level of development for this year of training

____ Conditional on Improvement: Meets some developmental milestones but occasionally falls short of the expected level of development for this year of training. An improvement plan is in place to facilitate achievement of competence appropriate to the level of training.

____ Unsatisfactory: Consistently falls short of the expected level of development for this year of training.