

Critical Care Medicine Milestones

ACGME International, Inc. (ACGME-I)



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Critical Care Medicine Milestones

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

Understanding Milestone Levels and Reporting

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

Milestones are arranged into levels. Tracking from Level 1 to Level 5 is synonymous with moving from novice to expert resident or 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, more junior residents/fellows may achieve higher levels early in their educational program just as more senior residents/fellows may be at a lower level later in their educational program. There is no predetermined timing for a resident or fellow to attain any particular level. Residents and 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 the Milestones as a sole assessment in high-stakes decisions. Level 5 is designed to represent an expert resident or 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. ACGME-I 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. 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 conformance with ACGME-I supervision guidelines as described in the applicable Program Requirements, as well as with 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 more context regarding the intent of each subcompetency, as well as examples for each level, assessment methods or tools, and other resources. The Supplemental Guide, like examples contained within the Milestones, is designed only to assist the program director and Clinical Competency Committee; it is not meant to demonstrate any required element or outcome.

The diagram below presents an example set of milestones for one subcompetency in the same format as the ACGME-I Report Worksheet. For each reporting period, a resident's/fellow's performance on the milestones within each subcompetency will be indicated by selecting the Milestones Level that best describes that individual's performance in relation to those milestones.

| 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 patier 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 their families (simulated or actual) | Discloses patient safety events to patients and their 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., community vaccination rate, infection rate, smoking cessation) | 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 |
| | | R | | |
| Comments: Not Yet Completed Level 1 | | | | 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: History and Physical Examination | | | | |
|--|--|--|--|--|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| Obtains specialty- specific, detailed, and accurate history from patients with common disorders, with substantial guidance | Obtains specialty-specific, detailed, and accurate history from patients with common disorders | Obtains specialty-specific, detailed, and accurate history from multiple sources for patients with complex disorders | Independently and efficiently obtains a specialty-specific, detailed, and accurate history from multiple sources for patients with complex disorders | Independently obtains a specialty-specific, detailed, and accurate history from multiple sources for patients with rare disorders |
| Performs a specialty- specific, detailed, and accurate physical exam on patients with common disorders, with substantial guidance | Performs a specialty- specific, detailed, and accurate physical exam on patients with common disorders | Elicits specialty-specific signs while performing a detailed and accurate physical exam on patients with complex disorders | Independently and efficiently elicits specialty-specific signs while performing a detailed and accurate physical exam on patients with complex disorders | Independently elicits specialty-specific signs while performing a detailed and accurate physical exam on patients with complex or rare disorders in clinically difficult circumstances |
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| Comments: Not Yet Completed Level 1 Not Yet Assessable | | | | |

| Patient Care 2: Disease Management in Critical Care | | | | |
|---|---|---|---|--|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| Manages unstable patients requiring a higher intensity of care, with substantial guidance | Manages unstable patients with single-system disease | Manages unstable patients with multisystem disease | Independently manages unstable patients with multisystem disease and coordinates interdisciplinary care plans | |
| Identifies the long-term consequences of critical illness, with substantial guidance | Anticipates the long-term consequences of critical illness | Anticipates and acts to minimize the long-term consequences of critical illness | Anticipates and acts independently to minimize the long-term consequences of critical illness | Independently facilitates post-intensive care unit care |
| Provides critical care consultation, with substantial guidance | Provides critical care consultation for patients with single-system disease | Provides critical care consultation for patients with multisystem disease | Independently triages and prioritizes comprehensive critical care consultation for multiple patients | Independently reconciles conflicting consultative recommendations to optimize patient care |
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| Comments: Not Yet Completed Level 1 Not Yet Assessable | | | | |

| Patient Care 3: Pre-Procedure Assessment | | | | |
|---|--|--|---|--|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| Identifies indications for procedures and their risks, benefits, and alternatives | Assesses indications, risks, and benefits, and weighs alternatives in low- to moderate-risk situations | Assesses indications, risks, and benefits, and weighs alternatives in high-risk situations | Independently assesses indications, risks, and benefits, and weighs alternatives in high-risk situations and acts to mitigate modifiable risk factors | Is recognized by peers as an expert in procedural assessment |
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| Comments: | | | Not Yet C Not Yet A | ompleted Level 1 |

| Patient Care 4: Procedures (Invasive and Non-Invasive) | | | | |
|--|--|---|--|---|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| Performs simple procedures, with assistance | Performs complex procedures, with assistance | Performs complex procedures, with minimal assistance | Independently performs all procedures in the current practice environment | Is recognized by peers as a procedural expert |
| Interprets limited procedural results, with assistance | Interprets comprehensive procedural results, with assistance | Independently interprets comprehensive procedural results | Independently interprets comprehensive procedural results and applies them to the patient's clinical context | |
| Recognizes common complications | Recognizes uncommon complications | Recognizes and manages complications, with oversight | Independently recognizes and manages complications | |
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| Comments: | | | | ompleted Level 1 |

| Medical Knowledge 1: Clinical Reasoning | | | | |
|--|--|---|--|--|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| Synthesizes a specialty- specific, analytic, and prioritized differential diagnosis for common presentations, with substantial guidance | Synthesizes a specialty- specific, analytic, and prioritized differential diagnosis for common presentations | Synthesizes a specialty- specific, analytic, and prioritized differential diagnosis for complex presentations | Synthesizes information to reach high-probability and/or high-risk diagnoses and anticipates potential complications in patient care | Is recognized by peers as an expert diagnostician |
| Identifies types of clinical reasoning errors within patient care, with substantial guidance | Identifies types of clinical reasoning errors within patient care | Applies clinical reasoning principles to retrospectively identify cognitive errors | Continually re-appraises own clinical reasoning to prospectively minimize cognitive errors and manage uncertainty | Coaches others to recognize and avoid cognitive errors |
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| Comments: Not Yet Completed Level 1 Not Yet Assessable | | | | |

| Medical Knowledge 2: Scientific Knowledge of Disease and Therapeutics | | | | |
|---|--|---|---|---|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| Demonstrates scientific knowledge of common diseases | Applies scientific knowledge of common diseases | Applies scientific knowledge of complex diseases | Independently applies scientific knowledge of complex diseases | Expertly teaches scientific knowledge of complex diseases |
| Demonstrates knowledge of pharmacology and therapeutics for common diseases | Applies knowledge of pharmacology and therapeutics for common diseases | Applies knowledge of pharmacology and therapeutics for complex diseases | Independently applies knowledge of pharmacology and therapeutics for complex diseases | Applies cutting-edge knowledge of pharmacology and therapeutics |
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| Comments: Not Yet Completed Level 1 Not Yet Assessable | | | | |

| 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 (simulated or actual) | Participates in disclosure of patient safety events to patients and their families (simulated or actual) | Discloses patient safety events to patients and their 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., community vaccination rate, infection rate, smoking cessation) | 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 |
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| Comments: Not Yet Completed Level 1 | | | | |

| Systems-Based Practice 2: System Navigation for Patient-Centered 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 the interprofessional teams | Coordinates care of patients in complex clinical situations, effectively utilizing the roles of the 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 | |
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| Comments: Not Yet Completed Level 1 | | | | | |

| Systems-Based Practice 3: Physician Role in Health Care Systems | | | | |
|--|--|---|---|---|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| Identifies key components of the complex health care system (e.g., hospital, skilled nursing facility, finance, personnel, technology) | 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., length of stay, readmission rates, clinical efficiency) | 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 |
| Describes the principles of cost-effective care | Delivers care with consideration of each patient's payment model | Engages with patients in shared decision making, informed by cost-effective care principles | Advocates for patient care needs (e.g., community resources, patient assistance resources) regardless of ability to pay | Participates in health policy advocacy activities |
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| Comments: Not Yet Completed Level 1 | | | | |

| 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 guidelines |
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| 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 performance data (feedback and other input) in order to inform goals | Seeks performance data episodically, with adaptability and humility | Intentionally seeks performance data consistently, with adaptability and humility | Role models consistently seeking performance data with adaptability and humility |
| 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 |
| Actively seeks opportunities to improve | Designs and implements a learning plan, with prompting | Independently creates and implements a learning plan | Uses performance data to measure the effectiveness of the learning plan and, when necessary, improves it | Facilitates the design and implementation of 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 |
| 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 utilizes 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 |
| 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) | resolution |
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| Comments: Not Yet Completed Level 1 | | | | ompleted Level 1 |

| Professionalism 2: Accountability/Conscientiousness | | | | | |
|--|---|--|---|------------------------------------|--|
| 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 appropriate attention to detail in routine situations | Performs tasks and responsibilities in a timely manner with appropriate 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 | |
| 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 | Proactively implements strategies to ensure that the needs of patients, teams, and systems are met | | | |
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| Comments: | Comments: Not Yet Completed Level 1 | | | | |

| Professionalism 3: Self-Awareness and Help-Seeking | | | | | |
|--|---|---|--|---|--|
| 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 | Coaches others when emotional responses or limitations in knowledge/ skills do not meet professional expectations | |
| Recognizes limits in the knowledge/skills of self or team, with assistance | Independently recognizes limits in the knowledge/skills of self or team and demonstrates appropriate help-seeking behaviors | With assistance, proposes a plan to remediate or improve limits in the knowledge/skills of self or team | Independently develops a plan to remediate or improve limits in the knowledge/skills of self or team | | |
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| Comments: Not Yet Completed Level 1 | | | | ompleted Level 1 | |

| Interpersonal and Communication Skills 1: Patient and 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 therapeutic relationship in straightforward encounters using active listening and clear language | Establishes a therapeutic relationship in challenging patient encounters | 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 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 | Role models self- awareness while identifying a contextual approach to minimize communication barriers |
| Identifies the need to adjust communication strategies based on assessment of patient/ family expectations and understanding of their health status and treatment options | Organizes and initiates communication with patient/family by introducing stakeholders, setting the agenda, clarifying expectations, and verifying understanding of the clinical situation | With guidance, sensitively and compassionately delivers medical information, elicits patient/family values, goals, and preferences, and acknowledges uncertainty and conflict | Independently, uses shared decision making to align patient/family values, goals, and preferences with treatment options 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: | Comments: Not Yet Completed Level 1 | | | |

| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
|---|--|--|---|---|
| Respectfully requests a consultation | Clearly and concisely requests a consultation | Checks own understanding of consultant recommendations | Coordinates recommendations from different members of the health care team to optimize patient care | Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed |
| Respectfully receives a consultation request | Clearly and concisely responds to a consultation request | Checks understanding of recommendations when providing consultation | | |
| Uses language that values all members of the health care team | Communicates information effectively with all health care team members | Uses active listening to adapt communication style to fit team needs | | |
| | Solicits feedback on performance as a member of the health care team | Communicates concerns and provides feedback to peers and learners | Communicates feedback and constructive criticism to superiors | Facilitates regular health care team-based feedback in complex situations |
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| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
|--|---|---|---|--|
| Accurately records information in the patient record | Demonstrates organized diagnostic and therapeutic reasoning through notes in the patient record | Concisely reports diagnostic and therapeutic reasoning in the patient record | Communicates clearly, concisely, timely, and in an organized written form, including anticipatory guidance | Models feedback to improve others' written communication |
| Safeguards patient personal health information | Demonstrates accurate, timely, and appropriate use of documentation shortcuts Documents required data in formats specified by institutional policy | Appropriately selects direct (e.g., telephone, inperson) and indirect (e.g., progress notes, text messages) forms of communication based on context | Achieves written or verbal communication (e.g., patient notes, email) that serves as an example for others to follow | Guides departmental or institutional communication around policies and procedures |
| Communicates through appropriate channels as required by institutional policy (e.g., patient safety reports, cell phone/pager usage) | Respectfully communicates concerns about the system | Uses appropriate channels to offer clear and constructive suggestions to improve the system | Initiates difficult conversations 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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| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
|---|--|--|---|--|
| Identifies prognostic communication as a key element for shared decision making | Assesses patients' families'/caregivers' prognostic awareness and identifies preferences for receiving prognostic information | Delivers basic prognostic information and attends to emotional responses of patients and their families/caregivers | Tailors communication of prognosis according to disease characteristics and trajectory, patient consent, family needs, and medical uncertainty, and manages intense emotional response | Coaches others in the communication of prognostic information |
| Identifies the need to assess patient/family expectations and understanding of their health status and treatment options | Facilitates communication with patient/family by introducing stakeholders, setting the agenda, clarifying expectations, and verifying an understanding of the clinical situation | Sensitively and compassionately delivers medical information; elicits patient/family values, goals and preferences; and acknowledges uncertainty and conflict, with guidance | Independently uses shared decision making to align patient/family values, goals, and preferences with treatment options to make a personalized care plan in situations with a high degree of uncertainty and conflict | Coaches shared decision making in patient/family communication |
| | | | | |