

Maternal-Fetal Medicine Milestones

The Accreditation Council for Graduate Medical Education



Implementation Date: July 1, 2022 Second Revision: April 2022 First Revision: July 2016

©2022 Accreditation Council for Graduate Medical Education (ACGME) All rights reserved except the copyright owners grant third parties the right to use the Maternal-Fetal Medicine Milestones on a non-exclusive basis for educational purposes.

Maternal-Fetal Medicine 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 competence 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.

Maternal-Fetal Medicine Milestones Work Group

Natalie Bowersox, MD Brian Brost, MD M. Ashley Cain, MD Katherine Economy, MD Laura Edgar, EdD, CAE Alice Goepfert, MD Inna Landres, MD Sarah Lassey, MD Lori McMann, MS Julie Phillips, MD Katelyn Pratt, MD Stephanie Ros, MD Matthew Shear, MD Jeanne Sheffield, MD Frank Williams, MD

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

American Board of Obstetrics and Gynecology

Review Committee for Obstetrics and Gynecology

Society for Maternal-Fetal 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 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 <u>www.acgme.org</u>, 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 subcompetency in the same format as the ACGME Report Worksheet. For each reporting period, a fellow's performance on the milestones for each subcompetency will be indicated by selecting the level of milestones that best describes that fellow's performance in relation to those milestones.

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of basic genetic principles, genetic screening, and teratogens	Demonstrates knowledge of advanced genetic principles and uncommon hereditary syndromes	Applies knowledge of basic genetic principles, genetic screening, and teratogens	Applies knowledge of advanced genetic principles to provide comprehensive counselling to patients and their families	Develops innovative concepts and theories regarding genetic principles
Demonstrates knowledge of basic genetic screening and diagnostic tests	Applies knowledge of basic genetic screening and diagnostic testing	Demonstrates knowledge of advanced genetic screening and diagnostic testing	Applies knowledge of advanced genetic screening and diagnostic testing principles to optimize perinatal outcomes	Develops genetic testing guidelines and principles to optimize perinatal outcomes on a regional o national level
Comments: Not Yet Completed Level 1				
Selecting a resp middle of a level milestones in that levels have been demonstrated.	implies that at level and in lower	Selecting a response between levels indica in lower levels have demonstrated as we milestones in the hig	ates that milestones been substantially Il as some	

©2022 Accreditation Council for Graduate Medical Education (ACGME)

All rights reserved except the copyright owners grant third parties the right to use the Maternal-Fetal Medicine Milestones on a non-exclusive basis for educational purposes.

Patient Care 1: Labor and Delivery				
Level 1	Level 2	Level 3	Level 4	Level 5
Manages routine peripartum care for maternal-fetal medicine patients	Performs initial consultation for complex medical and surgical procedures for maternal- fetal medicine patients on labor and delivery	Develops the management plan for complex medical and surgical procedures for maternal-fetal medicine patients on labor and delivery	Manages the interdisciplinary care for complex medical and surgical procedures for maternal-fetal medicine patients on labor delivery	Implements novel protocols for interdisciplinary management for complex medical and surgical procedures for maternal- fetal medicine patients on labor delivery
Identifies patients who need complex obstetrical procedures	Assists in complex obstetrical procedures	Performs key components of complex obstetrical procedures	Proficiently performs complex obstetrical procedures and manages complications	Applies an evidence- based approach to innovative and complex obstetrical procedures
Comments:	Comments: Not Yet Completed Level 1			
			Not fet A	

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies normal and abnormal anatomy on sonography	Performs and interprets sonography for cervical length and standard sonography for complete fetal anatomic survey in routine patient situations	Performs and interprets sonography for cervical length and standard sonography for complete fetal anatomic survey in complex patient situations	Proficiently performs detailed fetal assessment and interprets more complex findings	Proficiently performs advanced ultrasound techniques
Selects appropriate candidates for prenatal diagnosis or therapeutic procedures	Performs routine prenatal diagnosis or therapeutic procedures	Performs routine prenatal diagnosis or therapeutic procedures in complex patient situations	Proficiently performs complex prenatal diagnosis or therapeutic procedures	Proficiently performs advanced fetal therapeutic procedures

Г

Patient Care 3: Complications of Pregnancy				
Level 1	Level 2	Level 3	Level 4	Level 5
Consults and manages care for patients with common comorbidities in pregnancy	Consults and develops care plans for patients with complex medical comorbidities in pregnancy	Consults and manages care for patients with complex medical comorbidities in pregnancy	Manages the interdisciplinary care for patients with highly complex medical comorbidities in pregnancy	Implements novel protocols for interdisciplinary management for complex medical comorbidities in pregnancy
Consults and manages care for patients with common obstetric complications	Consults and develops care plan for patients with complex obstetric complications	Consults and manages care for patients with complex obstetric complications	Manages the interdisciplinary care for patients with highly complex obstetric complications	Develops innovative evidence-based approaches to care of patients with complex obstetric complications
Comments: Not Yet Completed Level 1				

Patient Care 4: Complex Genetic Counseling				
Level 1	Level 2	Level 3	Level 4	Level 5
Participates in pre-test counseling	Explains the rationale for the recommended testing	Conveys the impact and limitations of disorder- specific targeted testing while obtaining informed consent	Clearly conveys the impact and limitations of complex untargeted testing while obtaining informed consent	Participates in the development of professional practice guidelines regarding testing and return of results
Participates in post-test counseling	Explains the results of the test	Conveys the impact and limitations of diagnostic and non-diagnostic results	Conveys the impact and limitations of unexpected and ambiguous results	
Comments: Not Yet Completed Level 1				

Patient Care 5: Critical Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes risk factors that can lead to critical illness in an obstetric patient and formulates an initial differential diagnosis; recognizes initial signs/symptoms of a critically ill patient (vital signs, lab abnormalities, etc.) and asks for assistance in a timely fashion	Manages and initiates timely treatment for critically ill obstetric patient, including recognizing when transfer to the intensive care unit (ICU) or another service is most appropriate	With assistance, serves as a consultant to the ICU care team for the management of an obstetric critical care patient	Serves as a consultant to the ICU care team and assists in the management of an obstetric critical care patient	Leads the interdisciplinary care team in the management of an obstetric critical care patient
Comments: Not Yet Completed Level 1 Not Yet Assessable				

Medical Knowledge 1: Medical Complications of Pregnancy					
Level 1	Level 2	Level 3	Level 4	Level 5	
Demonstrates knowledge of the impact of physiologic changes of pregnancy on common medical comorbidities and knowledge of treatment modalities	Demonstrates knowledge of complex medical comorbidities	Demonstrates knowledge of treatment modalities of complex medical comorbidities in pregnancy	Applies knowledge of complex medical comorbidities and treatment modalities, including critical care	Develops and disseminates knowledge regarding complex medical comorbidities and treatment modalities	
Comments: Not Yet Completed Level 1					

Medical Knowledge 2: Obstetrical Complications (Antepartum, Intrapartum, Postpartum)					
Level 1	Level 2	Level 3	Level 4	Level 5	
Demonstrates knowledge of common obstetric complications and treatment modalities	Demonstrates knowledge of complex obstetric complications	Demonstrates knowledge of treatment modalities of complex obstetric complications	Applies knowledge of complex obstetric complications and treatment modalities, including interdisciplinary care	Develops and disseminates knowledge regarding obstetric complications and treatment modalities	
Comments: Not Yet Completed Level 1					

Medical Knowledge 3: Genetic Principles				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of basic genetic principles, genetic screening, and teratogens	Demonstrates knowledge of advanced genetic principles and uncommon hereditary syndromes	Applies knowledge of basic genetic principles, genetic screening, and teratogens	Applies knowledge of advanced genetic principles to provide comprehensive counselling to patients and their families	Develops innovative concepts and theories regarding genetic principles
Demonstrates knowledge of basic genetic screening and diagnostic tests	Applies knowledge of basic genetic screening and diagnostic testing	Demonstrates knowledge of advanced genetic screening and diagnostic testing	Applies knowledge of advanced genetic screening and diagnostic testing principles to optimize perinatal outcomes	Develops genetic testing guidelines and principles to optimize perinatal outcomes on a regional or national level
Comments: Not Yet Completed Level 1				

Medical Knowledge 4: Prenatal Imaging and Diagnosis				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge, including bioeffects and safety, of imaging modalities used to evaluate obstetric patients	Demonstrates knowledge of indications and complications of prenatal screening and diagnostic procedures	Demonstrates knowledge of indications and interpretation of advanced imaging modalities	Applies knowledge of complex advanced imaging and therapeutic options to develop a comprehensive management plan	Develops and disseminates innovative concepts and theories regarding advanced prenatal diagnosis and procedures
Demonstrates knowledge of normal fetal anatomy, placentation, and maternal pelvic anatomy	Demonstrates knowledge of abnormal fetal anatomy, growth, placentation, and maternal pelvic anatomy	Demonstrates knowledge of management options for specific fetal anomalies, fetal growth abnormalities and abnormal placentation	Applies knowledge of specific fetal anomalies, fetal growth abnormalities, and abnormal placentation to develop a comprehensive management plan in collaboration with a multidisciplinary care team	Develops and disseminates innovative concepts and theories regarding management options of complex fetal anomalies and abnormal placentation
Comments: Not Yet Completed Level 1				

©2022 Accreditation Council for Graduate Medical Education (ACGME) All rights reserved except the copyright owners grant third parties the right to use the Maternal-Fetal Medicine Milestones on a non-exclusive basis for educational purposes.

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 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
Comments: Not Yet Completed Level 1				

©2022 Accreditation Council for Graduate Medical Education (ACGME) All rights reserved except the copyright owners grant third parties the right to use the Maternal-Fetal Medicine Milestones on a non-exclusive basis for educational purposes.

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:					

Systems-Based Practice 3: System Navigation for Patient-Centered Care – Coordination 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 interprofessional team members	Coordinates care of patients in complex clinical situations, effectively using the roles of interprofessional team members	Identifies concerns with current systems and identifies opportunities for improvement	Analyzes the process of care coordination and leads in the design and implementation of improvements	
Comments:			Not Yet C	ompleted Level 1	

Systems-Based Practice	4: System Navigation for F	Patient-Centered Care – Tra	insitions of Care	
Level 1	Level 2	Level 3	Level 4	Level 5
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 5: Community and Population Health					
Level 1	Level 2	Level 3	Level 4	Level 5	
Demonstrates knowledge of population and community health needs and disparities	Identifies specific population and community health needs and inequities for their local population	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	Leads innovations and advocates for populations and communities with health care inequities	
Comments:			Not Yet C	ompleted Level 1	

Systems-Based Practice 6: 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 inter-related, 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 transitions of care	Advocates for or leads systems change that enhances high-value, efficient, and effective patient care and transitions of care
Comments:			Not Yet C	completed Level 1

Practice-Based Learning and Improvement 1: Evidence-Based and Informed 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 to the care of a routine patient	Articulates clinical questions and elicits patient preferences and values to guide evidence- based care, with guidance from other health care team members	With minimal guidance, 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 the care of complex patients, and/or participates in the development of guidelines	
Comments:					

Г

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies gap(s) between expectations and actual performance	Analyzes and reflects on the factors that contribute to gap(s) between expectations and actual performance	Institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance	Continuously reflects on remaining gaps and institutes behavioral adjustments to narrow them	Coaches others on reflective practice
Establishes goals for personal and professional development	Identifies opportunities for performance improvement; designs a learning plan	Integrates practice data and feedback with humility to implement a learning plan	Uses performance data to measure the effectiveness of the learning plan and adapts when necessary	Coaches others in the design and implementation of learning plans

Practice-Based Learning and Improvement 3: Scholarly Activity					
Level 1	Level 2	Level 3	Level 4	Level 5	
Identifies areas worth of scholarly investigation	Designs a hypothesis- driven or hypothesis generating scholarly thesis, under the direction of a research mentor	Presents products of scholarly activity at local, regional, or national meetings, and/or submits an abstract to regional, state, or national meetings	Completes and defends a comprehensive written scholarly thesis that remonstrates advanced research methodology, design, and statistical analysis	Publishes independent research that generates new medical knowledge, education programs, or process improvement	
Comments: Not Yet Completed Level 1					

Professionalism 1: Professional Behavior					
Level 1	Level 2	Level 3	Level 4	Level 5	
Identifies and describes potential triggers for professionalism lapses and how to appropriately report professionalism lapses	Demonstrates insight into professional behavior in routine situations and takes responsibility for one's own professionalism lapses	Demonstrates professional behavior in complex or stressful situations	Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in oneself and others	Develops programs for others to recognize potential triggers for professionalism lapses and approaches to anticipate and manage professional behavior	
Comments: Not Yet Completed Level 1					

Professionalism 2: Ethical Principles					
Level 1	Level 2	Level 3	Level 4	Level 5	
Demonstrates knowledge of ethical principles	Analyzes and applies ethical principles to straightforward situations	Recognizes the need to seek help in managing and resolving complex ethical situations	Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed, and identifies system- level issues that induce or exacerbate ethical problems	Seeks to address system- level factors that induce or exacerbate ethical problems or impede their resolution	
Comments: Not Yet Completed Level 1					

Г

Professionalism 3: 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	Consistently performs tasks and responsibilities in a timely manner, with appropriate attention to detail, in routine situations	Consistently 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	Recognizes one's own role in leading the care of all patients on the service, while mentoring/coaching other team members to ensure the best possible care of patients, including prioritizing tasks and mitigating burnout
Responds promptly to requests or reminders to complete tasks and responsibilities	Recognizes situations that may impact one's own ability to complete tasks and responsibilities in a timely manner	Proactively implements strategies to ensure the 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	Develops workshops or programs to mentor and coach other team members to ensure the best possible care of patients, including prioritizing tasks and mitigating burnout
Comments: Not Yet Completed Level 1				

©2022 Accreditation Council for Graduate Medical Education (ACGME) All rights reserved except the copyright owners grant third parties the right to use the Maternal-Fetal Medicine Milestones on a non-exclusive basis for educational purposes.

Professionalism 4: Self-Awareness and Help-Seeking Behaviors				
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	Develops programs for others to recognize and develop plans to optimize personal and professional well-being
Comments: Not Yet Completed Level 1				
	ended to evaluate a fellow's wel the mechanism by which those	I-being. Rather, the intent is to e factors impact well-being, and a		•

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates respect and establishes rapport with patients and their families	Establishes a therapeutic relationship in straightforward encounters	Establishes a therapeutic relationship in challenging encounters	Facilitates difficult discussions specific to patient and patient family conferences,	Mentors others in situational awareness and critical self-reflection
Communicates with patients and their families in an understandable and respectful manner	Identifies barriers to effective communication	When prompted, reflects on personal biases while attempting to minimize communication barriers	Independently recognizes personal biases while attempting to proactively minimize communication barriers	Coaches others in the facilitation of crucial conversations
Comments: Not Yet Completed Level 1				

Interpersonal and Comm	nunication Skills 2: Patient (Counseling and Shared De	cision Making	
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates understanding of and executes the informed consent process	Counsels patients through the decision-making process, including answering questions, for simple clinical problems	Counsels patients through the decision-making process, including answering questions, for complex clinical problems	Counsels patients through the decision- making process, including answering questions, in cases of diagnostic and therapeutic uncertainty	Provides education to interdisciplinary learners about shared decision making for complex clinical problems
Comments:			Not Yet C	ompleted Level 1

Interpersonal and Communication Skills 3: Interprofessional and Team Communication						
Level 1	Level 2	Level 3	Level 4	Level 5		
Understands and respects the role and function of interprofessional team members	Solicits insights from and uses language that values all interprofessional team members	Integrates contributions from interprofessional team members into the care plan	Prevents and mediates conflict and distress among the interprofessional team members	Fosters a culture of open communication and effective teamwork within the interprofessional team		
Comments: Not Yet Completed Level 1						

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 in an efficient manner	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	Documents required data in formats specified by institutional policy	Appropriately selects direct and indirect forms of communication based on context	Achieves written or verbal communication that serves as an example for others to follow	Guides departmental or institutional communication around policies and procedures