

Sports Medicine Milestones

The Accreditation Council for Graduate Medical Education



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The Milestones are designed only for use in evaluation of fellows in the context of their participation in ACGMEaccredited 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.

Sports Medicine Milestones

Work Group

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American Board of Emergency Medicine American Board of Family Medicine American Board of Pediatrics American Board of Physician Medicine and Rehabilitation American Medical Society for Sports Medicine ACGME Review Committee for Emergency Medicine ACGME Review Committee for Family Medicine ACGME Review Committee for Pediatrics ACGME Review Committee for Pediatrics

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 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 fellow 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.

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

Some milestone descriptions include statements about performing independently. These activities must occur in conformity to ACGME supervision guidelines as described in the Program Requirements, as well as to institutional and program policies. For example, a 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 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.

Level 1	Level 2	Level 3	Level 4	Level 5
Respectfully requests/receives a request for consultation	Clearly and concisely requests/responds to a request for consultation	Checks understanding of consult recommendations (received or provided)	Coordinates recommendations from different members of the health care team to optimize patient care, resolving conflict when needed	Role models flexible communication strategies that demonstrate one values input from all health care team members, resolving conflict when needed
Uses language that demonstrates one values all members of the health care team	Communicates information effectively with all health care team members	Communicates concerns and provides feedback to peers and learners	Communicates feedback and constructive criticism to supervising individuals	Facilitates regular health care team-based feedback in complex situations
Comments:			Not Yet C	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 b between levels indicate in lower levels have be demonstrated as well a milestones in the highe	es that milestones en substantially s some	

Level 1	Level 2	Level 3	Level 4	Level 5
Obtains appropriate medical history	Obtains detailed history of sports-related medical condition or injury	Obtains advanced history of sports-related medical condition or injury, with guidance	Independently obtains complex history of common and complex conditions	Serves as a role model for techniques to obtain subtle and sensitive information from patients and their families
Performs basic medical examination	Performs specific organ- based medical examination for common sports medicine conditions	Performs medical examination for complex or high-risk sports medicine conditions, with guidance	Independently performs complex examinations of common and complex conditions	Serves as a role model for efficiently performing problem-based examination
Performs basic musculoskeletal examination	Performs joint-specific musculoskeletal examination with special testing	Performs regional musculoskeletal examination for complex or high-risk sports musculoskeletal conditions, with guidance	Independently performs regional musculoskeletal and functional examination for common and complex sports musculoskeletal conditions	Serves as a role model for performance of regional musculoskeletal examination for common and complex sports musculoskeletal conditions

Patient Care 2: Medical Management: Differential Diagnosis, Diagnostic Testing, Interpretation of Data, and Treatment Planning					
Level 1	Level 2	Level 3	Level 4	Level 5	
Develops a basic differential diagnosis pertinent to common medical conditions	Develops a basic differential diagnosis pertinent to sports medicine conditions	Develops a comprehensive differential diagnosis based on history and physical examination findings, with guidance	Independently develops a comprehensive differential diagnosis pertinent to patient- specific factors	Serves as a resource or role model for the evaluation and management of complex conditions in sports medicine	
Orders and interprets diagnostic testing for common medical conditions	Orders and interprets diagnostic testing for common sports medicine conditions	Orders and interprets diagnostic testing for complex sports medicine conditions, with guidance	Independently interprets and applies diagnostic testing to treatment and management		
Generates a basic treatment plan for common medical conditions	Generates a basic treatment plan for common sports medicine conditions	Generates and modifies a treatment plan for complex sports medicine conditions, with guidance	Independently generates and modifies individualized treatment plans pertinent to patient-specific factors		
Comments:	Comments:				
				ompleted Level 1	

Patient Care 3: Musculoskeletal Conditions				
Level 1	Level 2	Level 3	Level 4	Level 5
Develops a basic differential diagnosis pertinent to common musculoskeletal conditions	Develops a basic differential diagnosis pertinent to uncommon musculoskeletal conditions	Develops a comprehensive differential diagnosis based on history and physical examination findings, with guidance	Independently develops a comprehensive differential diagnosis pertinent to patient- specific factors	Serves as a resource or role model for the evaluation and management of complex musculoskeletal conditions in sports medicine
Orders and interprets diagnostic testing for common conditions	Orders and interprets diagnostic testing for complex conditions	Orders and interprets diagnostic testing for common and complex conditions, with guidance	Independently interprets and applies diagnostic testing to treatment and management	
Generates a basic treatment plan for common musculoskeletal conditions	Generates a basic treatment plan for uncommon musculoskeletal conditions	Generates and modifies a treatment plan for complex conditions, with guidance	Independently generates and modifies individualized treatment plans pertinent to patient-specific factors	
Comments: Not Yet Completed Level 1 Not Yet Assessable				

Patient Care 4: Training Room, Team or Individual Sporting Event, and Mass Participation Event Medical Coverage				
Level 1	Level 2	Level 3	Level 4	Level 5
With direct supervision, participates in training room medical coverage	With indirect supervision, participates in training room medical coverage	With supervision available, provides training room medical coverage	Independently provides training room medical coverage	Develops policies for and supervises training room medical coverage
With direct supervision, participates in team or individual sporting event coverage	With indirect supervision, participates in team or individual sporting event coverage	With supervision available, provides team or individual sporting event coverage	Independently provides team or individual sporting event coverage	Serves as a resource or role model in the community for implementing care at team or individual sporting events
With direct supervision, participates in mass participation event medical coverage	With supervision immediately available, participates in mass participation event medical coverage	With supervision available, provides mass participation event medical coverage	Independently provides mass participation event medical coverage	Organizes mass participation event medical coverage
Comments: Not Yet Completed Level 1 Not Yet Assessable				

Patient Care 5: Diagnostic and Therapeutic Musculoskeletal Ultrasound					
Level 1	Level 2	Level 3	Level 4	Level 5	
Describes indications for diagnostic ultrasound and fundamental principles of ultrasound	Demonstrates appropriate set-up and scanning technique, and adjusts ultrasound settings for image optimization	With guidance, performs diagnostic ultrasound; acquires, labels, and saves ultrasound images; and generates a report	Independently performs diagnostic ultrasound; acquires, labels, and saves ultrasound images; and generates a report	Serves as a resource to others in performance of diagnostic ultrasound	
Describes indications, contraindications, risks, and benefits of ultrasound-guided injections	Demonstrates appropriate equipment and patient set-up, and ultrasound- guided injection technique	With guidance, performs ultrasound-guided injections with appropriate needle visualization; acquires, labels, and saves ultrasound images; and generates a procedure note	Independently performs ultrasound-guided injections with appropriate needle visualization; acquires, labels, and saves ultrasound images; and generates a procedure note	Serves as a resource to others in performance of ultrasound-guided injections	
Comments: Not Yet Completed Level 1					

Patient Care 6: Sports Medicine Procedures				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies indications and potential complications for common procedures	Assesses indications, risks, benefits, and alternatives, and obtains informed consent for common procedures	Assesses indications, risks, and benefits, and weighs alternatives for advanced procedures	Counsels patients on the indications, risks, benefits, and alternatives for common and advanced procedures	Serves as a resource for counseling patients on the indications, risks, benefits, and alternatives for common and advanced procedures
Identifies proper equipment set-up and relevant anatomy for procedures	Performs common therapeutic procedures, with supervision	Independently performs common therapeutic procedures; performs advanced procedures with supervision	Independently performs advanced procedures	Teaches common and advanced procedures
Comments: Not Yet Completed Level 1 Not Yet Assessable				

Medical Knowledge 1: Science of Sports Medicine					
Level 1	Level 2	Level 3	Level 4	Level 5	
Demonstrates basic knowledge of the science of sports medicine	Demonstrates advanced knowledge of the science of sports medicine	Synthesizes and applies knowledge of the science of common sports medicine conditions	Synthesizes and applies knowledge of the science of complex sports medicine conditions	Publishes peer-reviewed work related to the science of sports medicine	
Comments: Not Yet Completed Level 1					

Medical Knowledge 2: Medical Issues in Sports Medicine				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of pathophysiology of medical conditions in sports medicine	Demonstrates advanced knowledge of pathophysiology of medical conditions in sports medicine	Synthesizes and applies knowledge of pathophysiology, evaluation, and diagnostic testing for management of common medical conditions in sports medicine	Synthesizes and applies knowledge of pathophysiology, evaluation, and diagnostic testing for management of complex medical conditions in sports medicine	Publishes/presents peer- reviewed original scientific work to advance the medical knowledge related to medical conditions in sports medicine
Demonstrates basic knowledge of return-to- play guidelines for medical conditions in sports medicine	Demonstrates advanced knowledge of return-to- play guidelines for medical conditions in sports medicine	Synthesizes and applies knowledge of return-to- play guidelines for common medical conditions in sports medicine	Synthesizes and applies knowledge of return-to- play guidelines for complex medical conditions in sports medicine	Develops return-to-play protocols for medical conditions in sports medicine
Comments: Not Yet Completed Level 1 Not Yet Assessable				

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of musculoskeletal conditions, including prevention and treatment	Demonstrates advanced knowledge of musculoskeletal conditions, including prevention and treatment	Synthesizes and applies knowledge of pathophysiology, evaluation, and diagnostic testing to management of common sports medicine- related musculoskeletal injuries	Synthesizes and applies knowledge of pathophysiology, evaluation, and diagnostic testing to management of complex sports medicine-related musculoskeletal injuries	Publishes/presents peer- reviewed original scientific work to advance the medical knowledge related to pathophysiology, evaluation, and diagnostic testing to management of sports medicine-related musculoskeletal injuries
Demonstrates basic knowledge of return-to- play guidelines for musculoskeletal conditions in sports medicine	Demonstrates advanced knowledge of return-to- play guidelines for musculoskeletal conditions in sports medicine	Synthesizes and applies knowledge of return-to- play guidelines for common musculoskeletal conditions in sports medicine	Synthesizes and applies knowledge of return-to- play guidelines for complex musculoskeletal conditions in sports medicine	Develops return-to-play protocols for musculoskeletal conditions in sports medicine

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 skills required to identify, develop, implement, and analyze a quality improvement project	Designs, implements, and assesses quality improvement initiatives at the institutional or community level

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 using the roles of interprofessional team members	Coordinates care of patients in complex clinical situations, effectively using the roles of interprofessional team members	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
Demonstrates knowledge of population and community health needs and inequities	Identifies specific population and community health needs and inequities in the 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 Completed Level 1				

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies key components of the complex health care system	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	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
Describes basic health payment systems (including government, private, public, uninsured care) and practice models	Delivers care with consideration of each patient's payment model	Engages with patients in shared decision-making, informed by each patient's payment models	Advocates for patient care needs	Participates in health policy advocacy activities
Identifies basic knowledge domains for effective transition to independent practice	Demonstrates use of information technology required for medical practice	Describes core administrative knowledge needed for transition to independent practice	Analyzes individual practice patterns and prepares for professional requirements to enter independent practice	

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, categorize, and analyze clinical evidence	Articulates clinical questions and elicits patient preferences and values 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 collaboratively develops evidence-based decision- making tools
Comments:			Not Yet C	ompleted Level 1

Level 1	Level 2	Level 3	Level 4	Level 5
Accepts responsibility for personal and professional development by establishing goals	Demonstrates openness to performance data (feedback and other input) to inform goals	Intermittently seeks additional performance data, with adaptability and humility	Consistently seeks performance data, with adaptability and humility	Leads performance review processes
Identifies the factors that contribute to gap(s) between expectations and actual performance	Self-reflects and analyzes factors that contribute to gap(s) between expectations and actual performance	Self-reflects, analyzes, 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
Acknowledges there are always opportunities for self-improvement	With prompting, designs and implements a learning plan	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 implementing learning plans for others

Level 1	Level 2	Level 3	Level 4	Level 5
Describes professional behavior and potential triggers for personal lapses in professionalism	Demonstrates 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 oneself and others	Mentors others in professional behavior
Describes when and how to report professionalism lapses in oneself and others	Takes responsibility for personal lapses in professionalism	Recognizes the need to seek help in managing and resolving complex professionalism lapses	Recognizes and uses appropriate resources for managing and resolving dilemmas as needed	Identifies and seeks to address system-level factors that induce or exacerbate professionalism lapses of impede their resolution
Demonstrates knowledge of ethical principles	Analyzes straightforward situations using ethical principles	Analyzes complex situations using ethical principles	Recognizes and uses appropriate resources for managing and resolving ethical issues as needed	Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution

Level 1	Level 2	Level 3	Level 4	Level 5
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	Takes responsibility for inability to complete tasks and duties, identifies potential contributing factors, and describes strategies for ensuring timely task completion in the future	Recognizes and addresses 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 one's own ability to complete tasks and responsibilities in a timely manner	Proactively implements strategies to ensure that the needs of patients are met	Proactively implements strategies to ensure that the needs of teams and systems are met	

Level 1	Level 2	Level 3	Level 4	Level 5
With assistance, recognizes the status of personal and professional well-being	Independently recognizes status of personal and professional well-being	With guidance, proposes a plan to optimize personal and professional well-being	Independently develops a plan to optimize personal and professional well-being	Addresses system barriers to maintaining personal and professiona well-being
With assistance, recognizes limits in the knowledge/skills of oneself	Independently recognizes limits in the knowledge/skills of oneself and the team and demonstrates appropriate help-seeking behaviors	With guidance, proposes a plan to remediate or improve limits in the knowledge/skills of oneself or the team	Independently develops a plan to remediate or improve limits in the knowledge/skills of oneself or the team	Mentors others to enhance knowledge/skills of oneself or the team

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

Interpersonal and Comm	unication Skills 1: Patient-	and Family-Centered Com	munication	
Level 1	Level 2	Level 3	Level 4	Level 5
Uses language and non- verbal behavior to demonstrate respect and establish rapport while communicating one's own role within the health care system	Establishes a therapeutic relationship in straightforward encounters using active listening and clear language	Establishes a therapeutic relationship in challenging patient encounters	Maintains therapeutic relationships, with attention to the patient's/patient's family's concerns and context, regardless of complexity	Mentors others in situational awareness and critical self-reflection to consistently develop positive therapeutic relationships
Recognizes easily identified barriers to effective communication (e.g., language, disability)	Identifies complex barriers to effective communication (e.g., health literacy, cultural differences)	When prompted, reflects on personal biases while attempting to minimize communication barriers	Independently recognizes personal biases while attempting to proactively minimize communication barriers	Leads or develops initiatives to identify and address bias
Identifies the need to individualize communication strategies	Organizes and initiates communication, sets the agenda, clarifies expectations, and verifies understanding	Professionally and compassionately delivers medical information, managing the patient's/patient's family's values, goals, preferences, uncertainty, and conflict	Independently uses shared decision making to align the patient's/patient's family's values, goals, and preferences with treatment options to make a personalized care plan	Role models shared decision making in patient/patient's family communication, including situations with a high degree of uncertainty/conflict
Comments:			Not Yet C	ompleted Level 1

Interpersonal and Communication Skills 2: Interprofessional and Team Communication					
Level 1	Level 2	Level 3	Level 4	Level 5	
Respectfully requests/receives a request for consultation	Clearly and concisely requests/responds to a request for consultation	Checks understanding of consult recommendations (received or provided)	Coordinates recommendations from different members of the health care team to optimize patient care, resolving conflict when needed	Role models flexible communication strategies that demonstrate one values input from all health care team members, resolving conflict when needed	
Uses language that demonstrates one values all members of the health care team	Communicates information effectively with all health care team members	Communicates concerns and provides feedback to peers and learners	Communicates feedback and constructive criticism to supervising individuals	Facilitates regular health care team-based feedback in complex situations	
Comments:			Not Yet C	ompleted Level 1	

Level 1	Level 2	Level 3	Level 4	Level 5
Accurately and timely records information in the patient record	Demonstrates organized diagnostic and therapeutic reasoning through notes in the patient record	Uses patient record to communicate updated and concise information in an organized format	Demonstrates efficiency in documenting patient encounters and updating record	Optimizes and improves functionality of the electronic health record within the health system
Learns institutional policy and safeguards patient personal health information	Appropriately uses documentation shortcuts; records required data in formats and timeframes specified by institutional policy	Appropriately selects direct and indirect forms of communication based on context and policy	Manages the volume and extent of written and verbal communication required for independent practice	Guides departmental or institutional communication around policies and procedures
Communicates through appropriate channels as required by institutional policy	Respectfully communicates concerns about the system	Uses appropriate channels to offer clear and constructive suggestions for system improvement while acknowledging system limitations	Initiates difficult conversations with appropriate stakeholders to improve the system	Facilitates dialogue regarding systems issues among larger community stakeholders (residency, institution, health care system, field)