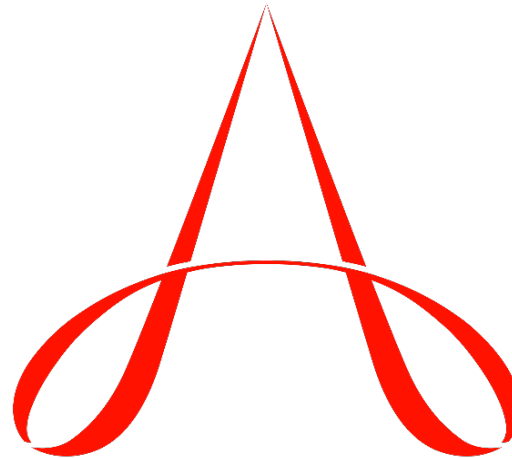




# Foot and Ankle Orthopaedic Surgery Milestones

The Accreditation Council for Graduate Medical Education



ACGME

Implementation: July 2022

Second Revision: November 2021

First Revision: July 2015

# Foot and Ankle Orthopaedic Surgery 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.

## **Foot and Ankle Orthopaedic Surgery Milestones**

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American Board of Orthopaedic Surgery

ACGME Review Committee for Orthopaedic Surgery

## Understanding Milestone Levels and Reporting

This document presents the Milestones, which programs use in a semi-annual review of resident/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 resident/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 resident/fellow may achieve higher levels early in their educational program just as a senior resident/fellow may be at a lower level later in their educational program. There is no predetermined timing for a resident to attain any particular level. Residents/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 resident/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 resident who performs a procedure independently must, at a minimum, be supervised through oversight.

Supplemental Guides and other resources are available on the Milestones page of each specialty section of the ACGME website. On [www.acgme.org](http://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.

Patient Care 2: Arthroplasty				
Level 1	Level 2	Level 3	Level 4	Level 5
Develops a simple surgical plan, with guidance	Develops a surgical plan for basic procedures that includes identification of potential challenges and technical complexities, with guidance	Independently develops a surgical plan for basic procedure, including contingencies for complications	Independently develops a surgical plan for complex procedures, including contingencies for complications	
Demonstrates basic surgical skills (e.g., wound closure) and assists with procedures	Performs basic components of the procedures, with guidance	Independently performs basic procedures with skill and confidence	Independently performs complex procedures with skill and confidence	Independently adapts surgical techniques for complex situations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="float: right;">                     Not Yet Completed Level 1 <input type="checkbox"/>                      Not Yet Assessable <input type="checkbox"/> </div>				

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: Arthroscopy				
Level 1	Level 2	Level 3	Level 4	Level 5
Develops a simple surgical plan, with guidance	Develops a surgical plan for basic procedures that includes identification of potential challenges and technical complexities, with guidance	Independently develops a surgical plan for basic procedures, including contingencies for complications	Independently develops a surgical plan for complex procedures, including contingencies for complications	
Demonstrates basic handling of arthroscopic instruments and assists with procedures	Establishes portals in appropriate locations, with guidance	Independently performs basic procedures with skill and confidence	Independently performs complex procedures with skill and confidence	Independently adapts surgical techniques for complex situations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>			Not Yet Completed Level 1	<input type="checkbox"/>
			Not Yet Assessable	<input type="checkbox"/>

Patient Care 2: Arthroplasty				
Level 1	Level 2	Level 3	Level 4	Level 5
Develops a simple surgical plan, with guidance	Develops a surgical plan for basic procedures that includes identification of potential challenges and technical complexities, with guidance	Independently develops a surgical plan for basic procedures, including contingencies for complications	Independently develops a surgical plan for complex procedures, including contingencies for complications	
Demonstrates basic surgical skills (e.g., wound closure) and assists with procedures	Performs basic components of the procedures, with guidance	Independently performs basic procedures with skill and confidence	Independently performs complex procedures with skill and confidence	Independently adapts surgical techniques for complex situations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>			Not Yet Completed Level 1	<input type="checkbox"/>
			Not Yet Assessable	<input type="checkbox"/>



Patient Care 3: Hindfoot/Ankle				
Level 1	Level 2	Level 3	Level 4	Level 5
Develops a simple surgical plan, with guidance	Develops a surgical plan for basic procedures that includes identification of potential challenges and technical complexities, with guidance	Independently develops a surgical plan for basic procedures, including contingencies for complications	Independently develops a surgical plan for complex procedures, including contingencies for complications	
Demonstrates basic surgical skills (e.g., wound closure) and assists with procedures	Performs basic components of the procedures, with guidance	Independently performs basic procedures with skill and confidence	Independently performs complex procedures with skill and confidence	Independently adapts surgical techniques for complex situations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				Not Yet Completed Level 1 <input type="checkbox"/>
				Not Yet Assessable <input type="checkbox"/>

Patient Care 4: Forefoot/Midfoot				
Level 1	Level 2	Level 3	Level 4	Level 5
Develops a simple surgical plan, with guidance	Develops a surgical plan for basic procedures that includes identification of potential challenges and technical complexities, with guidance	Independently develops a surgical plan for basic procedures, including contingencies for complications	Independently develops a surgical plan for complex procedures, including contingencies for complications	
Demonstrates basic surgical skills (e.g., wound closure) and assists with procedures	Performs basic components of the procedures, with guidance	Independently performs basic procedures with skill and confidence	Independently performs complex procedures with skill and confidence	Independently adapts surgical techniques for complex situations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				Not Yet Completed Level 1 <input type="checkbox"/>
				Not Yet Assessable <input type="checkbox"/>

Patient Care 5: Trauma				
Level 1	Level 2	Level 3	Level 4	Level 5
Develops a simple surgical plan, with guidance	Develops a surgical plan for basic procedures that includes identification of potential challenges and technical complexities, with guidance	Independently develops a surgical plan for basic procedures, including contingencies for complications	Independently develops a surgical plan for complex procedures, including contingencies for complications	
Demonstrates basic surgical skills (e.g., wound closure) and assists with procedures	Performs basic components of the procedures, with guidance	Independently performs basic procedures with skill and confidence	Independently performs complex procedures with skill and confidence	Independently adapts surgical techniques for complex situations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>			Not Yet Completed Level 1	<input type="checkbox"/>
			Not Yet Assessable	<input type="checkbox"/>

Patient Care 6: Non-Operative (orthotics and prosthetics, rehabilitation)				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of basic orthotic options and therapeutic modalities	Generates a basic treatment plan for basic conditions, with guidance	Independently generates and modifies individualized basic treatment plans	Independently generates and modifies individualized complex treatment plans	
Demonstrates knowledge of the principles of biomechanics	Manages patients with basic conditions, with guidance	Independently manages patients with basic conditions	Independently manages patients with complex conditions	Independently adapts management plan for atypical situations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">                     Not Yet Completed Level 1 <input type="checkbox"/>                      Not Yet Assessable <input type="checkbox"/> </div>				

Medical Knowledge 1: Diabetes				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of systemic complications associated with diabetes and diabetic control	Demonstrates knowledge of musculoskeletal deformities associated with diabetes and their biomechanical implications	Demonstrates knowledge of the implications of infection in the diabetic foot and the pathophysiology of Charcot	Demonstrates knowledge of the varying patterns of the Charcot foot and how to differentiate it from infection	Demonstrates knowledge of the indications for and principles of major deformity correction in neuroarthropathy
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">           Not Yet Completed Level 1 <input type="checkbox"/>            Not Yet Assessable <input type="checkbox"/> </div>				

Medical Knowledge 2: Athletic Injuries				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of the anatomy involved in athletic injury	Demonstrates knowledge of injury patterns that occur in athletic events	Demonstrates knowledge of rehabilitation protocols, indications for return to sport, and basic science of injury and repair for athletic injuries	Demonstrates knowledge of the indications for surgical or non-operative management	Demonstrates knowledge of current research, including outcomes in soft tissue and cartilage reconstruction
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">           Not Yet Completed Level 1 <input type="checkbox"/>            Not Yet Assessable <input type="checkbox"/> </div>				

Medical Knowledge 3: Arthropathies and Tendinopathies				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of the basic science of arthritis and tendinopathies	Demonstrates knowledge of pharmacologic management, including biologics	Demonstrates knowledge of biomechanical implications of and indications for osteotomies and tendon transfers	Demonstrates knowledge of the biomechanics of and indications for fusion and arthroplasty	Demonstrates knowledge of indications for salvage procedures
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">           Not Yet Completed Level 1 <input type="checkbox"/>            Not Yet Assessable <input type="checkbox"/> </div>				

Medical Knowledge 4: Neuromuscular				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic science and anatomy of neurologic conditions affecting the foot	Describes the biomechanical basis of neurogenic deformity of the foot	Demonstrates knowledge of how treatment affects neurogenic deformity and function of the foot	Demonstrates knowledge of the indications for surgical correction of neurogenic deformity	Demonstrates knowledge of the indications for salvage procedures in the neurogenic foot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">           Not Yet Completed Level 1 <input type="checkbox"/>            Not Yet Assessable <input type="checkbox"/> </div>				

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	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
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

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 and transitions care of patients in routine clinical situations effectively using the roles of interprofessional team members	Coordinates and transitions care of patients in complex clinical situations effectively using the roles of interprofessional team members	Role models effective coordination and transition of patient-centered care among multidisciplinary teams	Analyzes the process of care coordination and leads in the design and implementation of improvements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				



Systems-Based Practice 3: Physician Role in Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Describes basic health payment systems, including government, private, public, and uninsured care, as well as different practice models	Describes how working within the health care system impacts patient care, including billing and coding	Analyzes how personal practice affects the system (e.g., length of stay, readmission rates, clinical efficiency)	Uses shared decision-making in patient care, taking into consideration the costs to the patient	Participates in advocacy activities for health policy
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

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 incorporates patient preferences and values to the care of a straightforward condition	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 conditions	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 conditions
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

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 feedback and other input to inform goals	Responds to feedback and other input episodically, with adaptability and humility	Actively seeks feedback and other input, with adaptability and humility	Role models consistently seeking feedback and other input with adaptability and humility
Identifies the strengths, deficiencies, and limitations in one's knowledge and expertise	Analyzes and reflects on the strengths, deficiencies, and limitations in one's knowledge and expertise to design a learning plan, with assistance	Creates and implements a learning plan to optimize educational and professional development	Uses ongoing reflection, feedback, and other input to measure the effectiveness of the learning plan and, when necessary, improves it	Coaches others on reflective practice
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Professionalism 1: Professional Behavior and Ethical Principles				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies and describes inciting events for professionalism lapses	Demonstrates insight into professional behavior in straightforward situations	Demonstrates professional behavior in complex situations	Recognizes situations that may promote professionalism lapses and intervenes to prevent lapses in oneself and others	Coaches others when their behavior fails to meet professional expectations
Demonstrates knowledge of the ethical principles underlying patient care	Applies ethical principles in straightforward situations and takes responsibility for lapses	Integrates ethical principles and recognizes the need to seek help in complex situations	Recognizes and uses appropriate resources for managing and resolving ethical dilemmas	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				Not Yet Completed Level 1 <input type="checkbox"/>

Professionalism 2: Accountability/Conscientiousness				
Level 1	Level 2	Level 3	Level 4	Level 5
Reliably arrives to clinical activities on time and describes strategies for ensuring timely task completion	Performs tasks and responsibilities in a timely manner with appropriate attention to detail in straightforward situations	Prioritizes tasks and responsibilities in a timely manner with appropriate attention to detail in complex situations	Recognizes barriers that may impact others' ability to complete tasks and responsibilities in a timely manner	Develops processes to enhance others' ability to efficiently complete patient care tasks and responsibilities
Responds promptly to requests or reminders to complete tasks and responsibilities	Completes tasks and responsibilities without reminders	Proactively completes tasks and responsibilities to ensure the needs of patients, teams, and systems are met		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Professionalism 3: Well-Being				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of addressing personal and professional well-being (e.g., physical and emotional health)	Lists available resources for personal and professional well-being  Describes institutional resources meant to promote well-being	Discusses a plan to promote personal and professional well-being with institutional support  Recognizes which institutional factors affect well-being	Independently develops a plan to promote personal and professional well-being  Describes institutional factors that positively and/or negatively affect well-being	Describes institutional programs designed to examine systemic contributors to burnout
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

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 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 (e.g., situational awareness of language, disability, health literacy level, cultural differences)	Establishes a therapeutic relationship in straightforward encounters	Establishes a therapeutic relationship in challenging encounters (e.g., shared decision making)	Facilitates difficult discussions with patients and their families, (e.g., explaining complications, therapeutic uncertainty)	Coaches others in the facilitation of difficult conversations
Communicates with patients and their families in an understandable and respectful manner	Identifies barriers to effective communication (e.g., health literacy, cultural differences)	When prompted, reflects on personal biases while attempting to minimize communication barriers	Recognizes biases and integrates a patient's viewpoint and autonomy to ensure effective communication	Mentors others in situational awareness and critical self-reflection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b> <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Interpersonal and Communication Skills 2: Interprofessional and Team Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the value and role of each team member and respectfully interacts with all members of health care team	Communicates in a professional and productive manner to facilitate teamwork (e.g., active listening, updates in timely fashion)	Actively recognizes and mitigates communication barriers and biases with the health care team	Facilitates respectful communications and conflict resolution with the multidisciplinary health care team	Exemplar of effective and respectful communication strategies
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				Not Yet Completed Level 1 <input type="checkbox"/>



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 while safeguarding patient personal health information	Demonstrates accurate, timely, and efficient use of the electronic health record to communicate with the health care team	Concisely reports diagnostic and therapeutic reasoning while incorporating relevant outside data	Independently communicates via written or verbal methods based on urgency and context	Facilitates improved written and verbal communication of others
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Comments:</b>				Not Yet Completed Level 1 <input type="checkbox"/>