

# Surgery Milestones for the Middle East



May 2017

## The Surgery Milestones for the Middle East

The Milestones are designed only for use in evaluation of residents in the context of their participation in ACGME-I-accredited residency programs. The Milestones provide a framework for the assessment of the development of the resident in key dimensions of the elements of physician competency in a specialty. 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.

## Milestones Reporting

This document presents milestones designed for programs to use in semi-annual review of resident performance and reporting to the ACGME-I. Milestones are knowledge, skills, attitudes, and other attributes for each of the ACGME-I competencies organized in a developmental framework from less to more advanced. They are descriptors and targets for resident performance as a learner moves from entry into their program through graduation.

For each period, review and reporting will involve selecting milestone levels that best describe each resident's current performance and attributes. Milestones are arranged in numbered levels. Tracking from "Critical Deficiencies"/"Level 1" to "Aspirational"/"Level 5" is synonymous with moving from novice to expert in the specialty. These levels do not correspond with time in the educational program. Dependent upon previous education and experience, residents may enter a program at varying points in the Milestones.

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

**Level 1:** These learner behaviors are not within the spectrum of developing competence. Instead they indicate significant deficiencies in a resident's performance.

**Level 2:** The resident is demonstrating milestones expected of an incoming resident.

**Level 3:** The resident is advancing and demonstrates additional milestones, but is not yet performing at a mid-residency level.

**Level 4:** The resident continues to advance and demonstrate additional milestones; the resident demonstrates the majority of milestones targeted for residency in this sub-competency. This level is designed as the graduation target.

**Level 5:** The resident has advanced so that he or she now substantially demonstrates the milestones targeted for residency.

## **Additional Notes**

The “Level 4” Milestones are designed as the graduation *target* and *do not* represent a graduation *requirement*. Making decisions about readiness for graduation is the purview of the program director. Study of Milestones performance data will be required before the ACGME-I and its partners will be able to determine whether milestones in the first four levels appropriately represent the developmental framework, and whether Milestone data overall are of sufficient quality to be used for high-stakes decisions.

*Answers to Frequently Asked Questions about Milestones are posted on the ACGME-I website.*

The diagram below presents an example set of milestones for one sub-competency in the same format as the ACGME-I Report Worksheet. For each reporting period, a learner’s performance on the milestones for each sub-competency will be indicated by selecting the level of milestones that best describes that learner’s performance in relation to those milestones.

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 (actual or simulated)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Discloses patient safety events to patients and 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
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

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: Pre-Operative				
Level 1	Level 2	Level 3	Level 4	Level 5
This resident is not able to perform an efficient and accurate initial history and physical for patients admitted to the hospital.	This resident performs a focused, efficient, and accurate initial history and physical of a full spectrum of patients admitted to the hospital, including critically-ill patients.	This resident accurately diagnoses <i>many</i> "core" <a href="#">surgical conditions</a> in the SCORE curriculum and initiates appropriate management for <i>some</i> "core" conditions. This resident can develop a diagnostic plan and implement initial care for patients seen in the Emergency Department (ED).	This resident accurately diagnoses <i>most</i> "core" conditions in the SCORE curriculum and <i>some</i> "advanced" conditions and initiates appropriate management for <i>most</i> "core" and some "advanced" surgical conditions independently.	This resident can lead a team that cares for patients with "core" and "advanced" conditions in the SCORE curriculum and delegates appropriate clinical tasks to other health care team members. This resident recognizes atypical presentations of a large number of the aforementioned conditions.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

Patient Care 2: Post-Operative				
Level 1	Level 2	Level 3	Level 4	Level 5
This resident is unable to recognize or manage common post-operative problems such as fever, hypotension, hypoxia, confusion, and oliguria.	This resident recognizes and manages common post-operative problems such as fever, hypotension, hypoxia, confusion, and oliguria with the assistance of senior residents or staff members who are physically present.	This resident recognizes and manages common post-operative problems such as fever, hypotension, hypoxia, confusion, and oliguria with the assistance of senior residents or staff members who are available for consultation, but not physically present.	This resident recognizes and manages complex post-operative problems such as sepsis, systemic inflammatory response syndrome, and multiple system organ failure accurately.	This resident can lead a team and provide supervision in the evaluation and management of complex post-operative problems such as sepsis, systemic inflammatory response syndrome, and multiple system organ failure.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

Patient Care 3: Technical Skills				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>This resident lacks basic surgical skills such as airway management, knot tying, simple suturing, suture removal, use of Doppler ultrasound, administration of local anesthetic, universal precautions and aseptic technique and is unable to reliably perform basic procedures, including venipuncture, arterial puncture, incision and drainage, minor skin, and excisions placement of an IV, nasogastric tube, or urinary catheter.</p>	<p>This resident has basic surgical skills such as airway management, knot tying, simple suturing, suture removal, use of Doppler ultrasound, administration of local anesthetic, universal precautions, and aseptic technique, and is able to reliably perform basic procedures, including venipuncture, arterial puncture incision and drainage, minor skin excisions and placement of an IV, nasogastric tube, or urinary catheter. This resident can perform basic operative steps in "procedures of the SCORE curriculum."</p>	<p>This resident has respect for tissue, and is developing skill in instrument handling. This resident moves through portions of common operations without coaching and makes straightforward intra-operative decisions. This resident performs <i>some</i> of the "core" operations in the SCORE curriculum with minimal assistance.</p>	<p>This resident demonstrates proficiency in the handling of most instruments and exhibits efficiency of motion during procedures. This resident moves through the steps of <i>most</i> operations without much coaching and is making intra-operative decisions. This resident performs <i>many</i> of the "core" operations and is beginning to gain experience in the "advanced" operations.</p>	<p>This resident demonstrates proficiency in use of instruments and equipment required for "essential" operations, guides the conduct of most operations and makes independent intra-operative decisions. This resident can perform <i>most</i> of the "core" operations and has significant experience in the "advanced" operations.</p> <p>This resident can effectively guide other residents in "core" operations.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p>				<p>Not Yet Achieved Level 1 <input type="checkbox"/></p>



Medical Knowledge 1: Fundamental Surgical Knowledge				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>This resident does not have basic knowledge about common surgical conditions to which a medical student would be exposed in clerkship.</p>	<p>This resident has a basic understanding of the symptoms, signs, and treatments of the “<u>core</u>” <u>diseases</u> in the SCORE curriculum and has basic knowledge about common surgical conditions to which a medical student would be exposed in clerkship.</p>	<p>This resident has basic knowledge about <i>many</i> of the “core” diseases in the SCORE curriculum and can make a diagnosis and recommend appropriate initial management.</p> <p>This resident can recognize variation in the presentation of common surgical conditions.</p>	<p>This resident has significant knowledge about <i>many</i> “core” diseases in the SCORE curriculum and a basic knowledge of the “advanced” diseases in the SCORE curriculum, and can make a diagnosis and initiate appropriate initial management.</p>	<p>This resident has a comprehensive knowledge of the varying patterns of presentation and alternative and adjuvant treatments for “core” diseases in the SCORE curriculum and can make the diagnosis and provide initial care for the “advanced” diseases in the SCORE curriculum.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

Medical Knowledge 2: Peri-Operative Knowledge				
Level 1	Level 2	Level 3	Level 4	Level 5
This resident does not have basic knowledge about the common “core” operations to which a medical student would be exposed in clerkship.	This resident has a basic knowledge of the “ <a href="#">core</a> ” <a href="#">surgical operations</a> in the SCORE curriculum to which a medical student would be exposed in clerkship.	This resident has basic knowledge of the operative steps, peri-operative care, and post-operative complications for <i>many</i> of the “core” operations in the SCORE curriculum.	This resident has a significant knowledge of the operative steps, peri-operative care, and post-operative complications for <i>most</i> of the “core” operations in the SCORE curriculum and a basic knowledge of some of the “advanced” operations.	This resident has a comprehensive level of knowledge of the operative steps, peri-operative care, and post-operative complications for the “core” operations in the SCORE curriculum and a basic knowledge of many of the “advanced” operations.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:			Not Yet Achieved Level 1 <input type="checkbox"/>	

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 (actual or simulated)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Discloses patient safety events to patients and 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
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

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 their interprofessional teams	Role models effective coordination of patient-centered care among different disciplines and specialties	Analyzes the process of care coordination and leads in the design and implementation of improvements
Identifies key elements for safe and effective transitions of care and handoffs	Performs safe and effective transitions of care/handoffs in routine clinical situations	Performs safe and effective transitions of care/handoffs in complex clinical situations	Role models and advocates for safe and effective transitions of care/handoffs within and across 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 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
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

Systems-Based Practice 3: Physician Role in Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies components of the complex health care system	Describes the physician's role and how the interrelated components of complex health care system impact patient care	Analyzes how personal practice affects the system (e.g., length of stay, readmission rates, clinical efficiency)	Manages the interrelated components of the complex health care systems for efficient and effective patient care	Advocates for or leads change to enhance systems for high value, efficient, and effective patient care
Describes basic health payment systems, including government, private, public, and uninsured care and different practice models	Delivers care informed by patient specific payment model	Utilizes shared decision making in patient care, taking into consideration payment models	Advocates for patient care understanding the limitations of each patient's payment model (e.g., community resources, patient assistance resources)	Participates in advocacy activities for health policy to better align payment systems with high value care
		Identifies resources and effectively plans for transition to practice (e.g., information technology, legal, billing and coding, financial, personnel)	Describes basic elements needed to transition to practice (e.g., contract negotiations, malpractice insurance, government regulation, compliance)	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

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 in order to care for 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
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

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 that contribute to gap(s) between expectations and actual performance	Analyzes and reflects on the factors that 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
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

Professionalism 1: Professional Behavior and Ethical Principles				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Identifies and describes potential triggers for professionalism lapses</p> <p>Describes when and how to appropriately report professionalism lapses, including strategies for addressing common barriers</p> <p>Demonstrates knowledge of the ethical principles underlying informed consent, surrogate decision making, advance directives, confidentiality, error disclosure, stewardship of limited resources, and related topics</p>	<p>Demonstrates insight into professional behavior in routine situations</p> <p>Takes responsibility for own professionalism lapses</p> <p>Analyzes straightforward situations using ethical principles</p>	<p>Demonstrates professional behavior in complex or stressful situations</p> <p>Analyzes complex situations using ethical principles</p> <p>Recognizes need to seek help in managing and resolving complex ethical situations</p>	<p>Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others</p> <p>Recognizes and utilizes appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation)</p>	<p>Coaches others when their behavior fails to meet professional expectations</p> <p>Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>



Professionalism 2: Accountability/Conscientiousness				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Takes responsibility for failure to complete tasks and responsibilities, identifies potential contributing factors, and describes strategies for ensuring timely task completion in the future</p> <p>Responds promptly to requests or reminders to complete tasks and responsibilities</p>	<p>Performs tasks and responsibilities in a timely manner with appropriate attention to detail in routine situations</p> <p>Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner</p>	<p>Performs tasks and responsibilities in a timely manner with appropriate attention to detail in complex or stressful situations</p> <p>Proactively implements strategies to ensure that the needs of patients, teams, and systems are met</p>	<p>Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner</p>	<p>Takes ownership of system outcomes</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

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  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	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Uses language and non-verbal behavior to demonstrate respect and establish rapport</p> <p>Identifies common barriers to effective communication (e.g., language, disability) while accurately communicating own role within the health care system</p> <p>Identifies the need to adjust communication strategies based on assessment of patient/family expectations and understanding of their health status and treatment options</p>	<p>Establishes a therapeutic relationship in straightforward encounters using active listening and clear language</p> <p>Identifies complex barriers to effective communication (e.g., health literacy, cultural)</p> <p>Organizes and initiates communication with patients/families by introducing stakeholders, setting the agenda, clarifying expectations, and verifying an understanding of the clinical situation</p>	<p>Establishes a therapeutic relationship in challenging patient encounters</p> <p>When prompted, reflects on personal biases while attempting to minimize communication barriers</p> <p>With guidance, sensitively and compassionately delivers medical information; elicits patient/family values, goals and preferences; and acknowledges uncertainty and conflict</p>	<p>Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity</p> <p>Independently recognizes personal biases while attempting to proactively minimize communication barriers</p> <p>Independently uses shared decision making to align patient/family values, goals, and preferences with treatment options to make a personalized care plan</p>	<p>Mentors others in situational awareness and critical self-reflection to consistently develop positive therapeutic relationships</p> <p>Role models self-awareness practice while identifying teaching a contextual approach to minimize communication barriers</p> <p>Role models shared decision making in patient/family communication in situations with a high degree of uncertainty/conflict</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>

Interpersonal and Communication Skills 2: Interprofessional and Team Communication				
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	Communicates feedback and constructive criticism to superiors	Facilitates regular health care team-based feedback in complex situations
Uses language that values all members of the health care team	Communicates information effectively with all health care team members  Solicits feedback on performance as a member of the health care team	Uses active listening to adapt communication style to fit team needs  Communicates concerns and provides feedback to peers and learners		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved 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	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, in a timely manner, 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	Appropriately selects direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) forms of communication based on context	Produces written or verbal communication (e.g., patient notes, e-mail, etc.) 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)	Documents required data in formats specified by institutional policy  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 (e.g., institution, health care system, field)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Achieved Level 1 <input type="checkbox"/>