

# The Allergy and Immunology Milestone Project

The Milestones provide a framework for the assessment of the development of the resident physician in key dimensions of the elements of physician competency in a specialty or subspecialty. The Milestones are designed only for use in evaluation of resident physicians in the context of their participation in Accreditation Council for Graduate Medical Education (ACGME)–accredited residency or fellowship programs. They neither represent the entirety of the dimensions of the 6 domains of physician competency, nor are they designed to be relevant in any other context.

## Milestone Reporting

This document presents Milestones designed for programs to use in semiannual reviews of resident performance and reporting to the ACGME. Milestones are knowledge, skills, attitudes, and other attributes for each of the ACGME competencies organized in a developmental framework from less to more advanced. They are descriptors and targets for resident performance as a resident moves from entry into residency through graduation. In the initial years of implementation, the Review Committee will examine Milestone performance data for each program's residents as 1 element in the Next Accreditation System to determine whether residents overall are progressing.

For each period, review and reporting will involve selecting Milestone levels that best describe a resident's current performance and attributes. Milestones are arranged into numbered levels. Tracking from Level 1 to Level 5 is synonymous with moving from novice to expert. These levels do not correspond with postgraduate year of education.

Selection of a level implies that the resident substantially demonstrates the Milestones in that level, as well as those in lower levels (see FIGURE).

**Level 1:** The resident demonstrates Milestones expected of an incoming resident.

**Level 2:** The resident is advancing and demonstrates additional Milestones but is not yet performing at a midresidency level.

**Level 3:** The resident continues to advance and demonstrate additional Milestones, consistently including most of the Milestones targeted for residency.

**Level 4:** The resident has advanced so that he or she now substantially demonstrates the Milestones targeted for residency. This level is designed as the graduation target.

**Level 5:** The resident has advanced beyond performance targets set for residency and is demonstrating aspirational goals that might describe the performance of someone who has been in practice for several years. It is expected that only a few exceptional residents will reach this level.

## Additional Notes

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

Examples are provided with some Milestones. Please note that 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 with ACGME supervision guidelines, as well as institutional and program policies. For example, a resident who performs a procedure independently must, at a minimum, be supervised through oversight.

## ACGME Milestone Report Form

The FIGURE presents an example set of Milestones for 1 subcompetency in the same format as the ACGME Milestone Report Form. For each reporting period, a resident's performance on the Milestones for each subcompetency will be indicated by:

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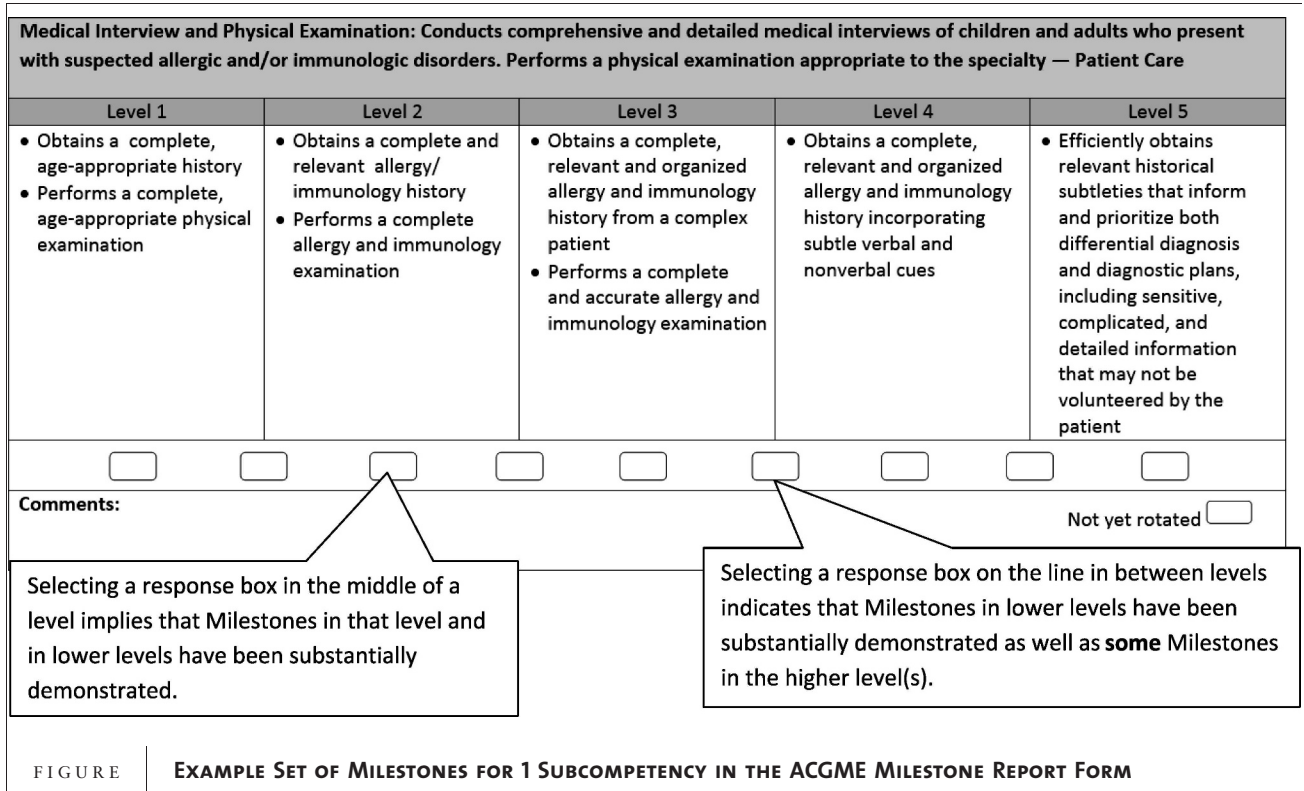


FIGURE | EXAMPLE SET OF MILESTONES FOR 1 SUBCOMPETENCY IN THE ACGME MILESTONE REPORT FORM

- selecting the level of Milestones that best describes that resident’s performance in relation to the Milestones, or
- for Patient Care and Medical Knowledge Milestones, selecting the option that says the resident has “Not yet rotated,” or
- for Interpersonal and Communication Skills, Practice-Based Learning and Improvement, Professionalism, and Systems-Based Practice Milestones, selecting the option that says the resident has “Not yet achieved Level 1.”

**Allergy and Immunology Milestones**

<b>MEDICAL INTERVIEW AND PHYSICAL EXAMINATION: CONDUCTS COMPREHENSIVE AND DETAILED MEDICAL INTERVIEWS OF CHILDREN AND ADULTS WHO PRESENT WITH SUSPECTED ALLERGIC AND/OR IMMUNOLOGIC DISORDERS; PERFORMS A PHYSICAL EXAMINATION APPROPRIATE TO THE SPECIALTY—PATIENT CARE 1</b>					
<b>TABLE 1</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>
	<ul style="list-style-type: none"> <li>Obtains a complete, age-appropriate history</li> <li>Performs a complete, age-appropriate physical examination</li> </ul>	<ul style="list-style-type: none"> <li>Obtains a complete and relevant allergy and immunology history</li> <li>Performs a complete allergy and immunology examination</li> </ul>	<ul style="list-style-type: none"> <li>Obtains a complete, relevant, and organized allergy and immunology history from a complex patient</li> <li>Performs a complete and accurate allergy and immunology examination</li> </ul>	<ul style="list-style-type: none"> <li>Obtains a complete, relevant, and organized allergy and immunology history incorporating subtle verbal and nonverbal cues</li> </ul>	<ul style="list-style-type: none"> <li>Efficiently obtains relevant historical subtleties that inform and prioritize both differential diagnosis and diagnostic plans, including sensitive, complicated, and detailed information that may not be volunteered by the patient</li> </ul>

<b>DIAGNOSTIC TESTS AND PROCEDURES: SELECTS, PERFORMS, AND INTERPRETS DIAGNOSTIC TESTS OR PROCEDURES APPROPRIATELY—PATIENT CARE 2</b>					
<b>TABLE 2</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>
	<ul style="list-style-type: none"> <li>Demonstrates basic understanding of the commonly used allergy and immunology diagnostic tests and procedures</li> </ul>	<ul style="list-style-type: none"> <li>Orders tests appropriate for common clinical conditions and according to evidence-based guidelines</li> <li>Interprets test results with the support of an attending physician</li> <li>With supervision, performs common clinical diagnostic procedures (eg, skin testing)</li> </ul>	<ul style="list-style-type: none"> <li>Begins to recognize when additional testing will be of limited benefit</li> <li>Independently interprets test results</li> <li>Independently performs common clinical diagnostic procedures, and with supervision performs specialized procedures (eg, challenges)</li> </ul>	<ul style="list-style-type: none"> <li>Consistently recognizes when additional testing will be of limited benefit</li> <li>Appropriately orders specialized allergy and immunology tests and interprets results</li> <li>Independently performs specialized clinical diagnostic procedures</li> </ul>	<ul style="list-style-type: none"> <li>Participates in the writing or reviewing of guidelines</li> <li>Identifies and appropriately uses new tests not routinely available</li> <li>Identifies and appropriately uses new diagnostic procedures</li> </ul>

<b>MANAGEMENT PLAN: DESIGNS APPROPRIATE MANAGEMENT PLANS FOR ALLERGIC AND IMMUNOLOGIC DISORDERS THAT ADDRESS THE INDICATIONS, RISKS, BENEFITS, AND COST OF THERAPY—PATIENT CARE 3</b>					
<b>T A B L E 3</b>					
<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	
<ul style="list-style-type: none"> <li>▪ Recognizes basic treatments for common allergic and immunologic disorders</li> <li>▪ Identifies outcomes associated with various treatments</li> <li>▪ Identifies potential adverse events associated with various treatments</li> </ul>	<ul style="list-style-type: none"> <li>▪ Selects and implements treatment from existing evidence-based therapies or clinical trials with substantial supervision</li> <li>▪ Formulates a plan for monitoring outcomes</li> <li>▪ Formulates a plan for monitoring and treating adverse events with substantial supervision</li> </ul>	<ul style="list-style-type: none"> <li>▪ Selects and implements cost-effective treatment from existing evidence-based therapies or clinical trials with minimal supervision</li> <li>▪ Monitors outcomes and appropriately adjusts treatment with supervision</li> <li>▪ Monitors and treats adverse events with minimal supervision</li> </ul>	<ul style="list-style-type: none"> <li>▪ Selects and implements cost-effective treatment from existing evidence-based therapies or clinical trials independently</li> <li>▪ Monitors outcomes and appropriately adjusts treatment</li> <li>▪ Monitors and treats adverse events without supervision</li> </ul>	<ul style="list-style-type: none"> <li>▪ Participates in writing or reviewing practice guidelines</li> <li>▪ Identifies and reports previously unrecognized outcomes</li> <li>▪ Identifies and reports previously unrecognized adverse events</li> </ul>	

<b>COORDINATION OF CARE: COORDINATES THE CARE OF ALLERGY AND IMMUNOLOGY PATIENTS, INCLUDING THE USE OF CONSULTATION AND EFFECTIVE INTERACTIONS WITH FACULTY MEMBERS, PEERS, AND SUPPORT STAFF; UNDERSTANDS THE ROLE OF SUBSPECIALTY CONSULTATION IN THE OVERALL CARE OF PATIENTS; PARTICIPATES IN INTERDISCIPLINARY TEAMS TO ENHANCE PATIENT SAFETY—PATIENT CARE 4</b>					
<b>T A B L E 4</b>					
<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	
<ul style="list-style-type: none"> <li>▪ Identifies resources needed to implement a plan of care</li> <li>▪ Identifies the need for a multidisciplinary patient care team in a management plan</li> </ul>	<ul style="list-style-type: none"> <li>▪ Accesses and manages resources needed to implement a plan of care with substantial supervision</li> <li>▪ Participates in multidisciplinary patient care teams</li> </ul>	<ul style="list-style-type: none"> <li>▪ Accesses and manages resources needed to implement a plan of care with minimal supervision</li> <li>▪ Appropriately influences decision making in multidisciplinary patient care teams</li> </ul>	<ul style="list-style-type: none"> <li>▪ Accesses and manages resources needed to implement a plan of care independently</li> <li>▪ Demonstrates ability to lead a multidisciplinary patient care team</li> </ul>	<ul style="list-style-type: none"> <li>▪ Advocates for increased access to resources needed to implement a plan of care in the community</li> </ul>	

<b>TABLE 5                      ALLERGY AND IMMUNOLOGY MEDICAL KNOWLEDGE: UNDERSTANDS, APPLIES, AND TEACHES OTHERS ESTABLISHED AND EVOLVING BIOMEDICAL, CLINICAL, AND PSYCHOSOCIAL SCIENCES AND EPIDEMIOLOGY RELEVANT TO PATIENT CARE; UNDERSTANDS COMPLEX DISEASE RELATIONSHIPS AND MECHANISMS—MEDICAL KNOWLEDGE</b>					
Level 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> <li>▪ Demonstrates knowledge of basic pathophysiology and clinical presentations for common allergic and immunologic conditions</li> <li>▪ Attends all required educational activities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Demonstrates sufficient knowledge and applies it to the diagnosis and treatment of patients with common allergic and immunologic conditions</li> <li>▪ Actively participates in all required educational activities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Demonstrates sufficient knowledge and applies it to the diagnosis and treatment of patients with complex allergic and immunologic conditions</li> <li>▪ Leads educational activities, with supervision</li> </ul>	<ul style="list-style-type: none"> <li>▪ Independently applies acquired knowledge to diagnose and treat patients with complex allergic and immunologic conditions</li> <li>▪ Independently develops and leads educational activities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Independently synthesizes the literature and patient care experiences to diagnose and treat patients with newly identified or emerging diseases</li> <li>▪ Demonstrates sufficient comprehensive knowledge to organize a course or serve as a content expert, invited lecturer, or subject matter expert</li> </ul>	

<b>TABLE 6                      USES/ACCESSES OUTSIDE RESOURCES: DEMONSTRATES AWARENESS OF AND ACCOMMODATION TO CIRCUMSTANCES AFFECTING PATIENT CARE, INCLUDING THE PATIENT'S FINANCIAL RESOURCES AND OTHER FACTORS THAT CAN AFFECT HEALTH CARE DELIVERY AND QUALITY; UNDERSTANDS THE BASICS OF PATIENT SAFETY AND CLINICAL RISK MANAGEMENT, WITH EMPHASIS ON AVOIDANCE OF MEDICAL ERRORS; USES TECHNOLOGY AND EXTERNAL RESOURCES TO ACCOMPLISH SAFE AND EFFECTIVE HEALTH CARE DELIVERY—SYSTEMS-BASED PRACTICE</b>					
Level 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> <li>▪ Infrequently (&lt; 25% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>▪ Inconsistently (25%–75% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>▪ Usually (75%–90% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>▪ Constantly (&gt; 90% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>▪ Demonstrates consistency and proficiency beyond expectations for a graduating resident, fellow, or junior independent practitioner</li> </ul>	

RESEARCH AND SCHOLARLY ACTIVITY: ACTIVELY PARTICIPATES IN MENTORED RESEARCH OR SCHOLARLY ACTIVITIES SUCH AS CLINICAL OR LABORATORY-BASED INVESTIGATION, EPIDEMIOLOGIC STUDY, OR CONTINUOUS QUALITY IMPROVEMENT ANALYSIS; DURING CONDUCT OF THESE ACTIVITIES, DEMONSTRATES THE ABILITY TO SYNTHESIZE AND APPLY INFORMATION FROM THE MEDICAL AND SCIENTIFIC LITERATURE, AND TO DISSEMINATE FINDINGS—PRACTICE-BASED LEARNING AND IMPROVEMENT 1					
TABLE 7					
Level 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> <li>Conducts a limited literature search and uses databases</li> <li>Understands principles of Responsible Conduct of Research and study design</li> </ul>	<ul style="list-style-type: none"> <li>Conducts an in-depth literature search using multiple resources</li> <li>Develops a research hypothesis and identifies the resources necessary to test it, working with appropriate supervision</li> </ul>	<ul style="list-style-type: none"> <li>Conducts a focused literature search and begins to critically evaluate the results</li> <li>Designs and conducts a research study with appropriate supervision</li> </ul>	<ul style="list-style-type: none"> <li>Presents a critical appraisal and synthesis of the literature either orally or in writing</li> <li>Analyzes and reports the results of a research study</li> </ul>	<ul style="list-style-type: none"> <li>Conducts peer review of manuscripts</li> <li>Authors a published peer-reviewed scholarly manuscript</li> </ul>	

SELF-EVALUATES PERFORMANCE: INCORPORATES FEEDBACK; IDENTIFIES STRENGTHS, DEFICIENCIES, AND LIMITS IN SELF-KNOWLEDGE AND EXPERTISE; SETS LEARNING AND IMPROVEMENT GOALS IN A MANNER THAT FOSTERS PRODUCTIVE SELF-DIRECTED LEARNING; ACTIVELY PARTICIPATES IN QUALITY IMPROVEMENT PROJECT(S); LOCATES, APPRAISES, AND ASSIMILATES EVIDENCE FROM SCIENTIFIC STUDIES PERTINENT TO PATIENTS; USES TECHNOLOGY TO ENHANCE PATIENT CARE AND SELF-IMPROVEMENT—PRACTICE-BASED LEARNING AND IMPROVEMENT 2					
TABLE 8					
Level 1	Level 2	Level 3	Level 4	Level 5	
<ul style="list-style-type: none"> <li>Infrequently (&lt; 25% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Inconsistently (25%–75% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Usually (75%–90% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Constantly (&gt; 90% of the time) demonstrates proficiency for all aspects expected for a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates consistency and proficiency beyond expectations for a graduating resident, fellow, or junior independent practitioner</li> </ul>	

**TABLE 9**  
**EXHIBITS ETHICAL AND RESPONSIBLE BEHAVIOR, INCLUDING RESPECT, COMPASSION, HONESTY, AND INTEGRITY IN ALL ASPECTS OF PRACTICE AND SCHOLARLY ACTIVITY; IS ACCOUNTABLE TO PATIENTS, SOCIETY, AND THE PROFESSION AND ACKNOWLEDGES ERRORS; MAINTAINS RESPONSIBILITY FOR HIS OR HER OWN EMOTIONAL, PHYSICAL, AND MENTAL HEALTH, INCLUDING FATIGUE AWARENESS AND AVOIDANCE, AND COMMITMENT TO LIFELONG LEARNING AND SELF-ASSESSMENT; DEMONSTRATES SENSITIVITY TO DIVERSE PATIENT, STAFF, AND SUPPORT PERSONNEL POPULATIONS; CONSIDERS NEEDS OF PATIENTS, FAMILIES, AND COLLEAGUES—PROFESSIONALISM**

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> <li>Infrequently (&lt; 25% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Inconsistently (25%–75% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Usually (75%–90% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Constantly (&gt; 90% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates consistency and proficiency beyond expectations for a graduating resident, fellow, or junior independent practitioner</li> </ul>

**TABLE 10**  
**PROVIDES TEAM-BASED CARE AND DEVELOPS PRODUCTIVE RELATIONSHIPS WITH PATIENTS, PEERS, STAFF MEMBERS, AND INTERDISCIPLINARY CARE TEAM MEMBERS; ENSURES THAT PATIENTS UNDERSTAND THEIR CONDITION(S) AND TREATMENTS, ENCOURAGES QUESTIONS FROM PATIENTS, AND PROVIDES EXPLANATIONS APPROPRIATE TO PATIENT NEEDS; EDUCATES AND COUNSELS PATIENTS, FAMILIES, AND COLLEAGUES WHEN APPROPRIATE; IDENTIFIES AND ACCOMMODATES SPECIAL COMMUNICATION NEEDS OF VULNERABLE POPULATIONS (EG, CHILDREN, ELDERLY, PATIENTS WITH COMPLEX BIOMEDICAL OR PSYCHOSOCIAL CONDITIONS; PERSONS WITH DISABILITIES, IMMIGRANT AND REFUGEE POPULATIONS, VETERANS, PRISONERS, LGBT [LESBIAN, GAY, BISEXUAL, TRANSGENDER] PATIENTS, ETC); USES TECHNOLOGY AND INFORMATION-SHARING MODALITIES TO FACILITATE COMMUNICATION—INTERPERSONAL AND COMMUNICATION SKILLS**

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> <li>Infrequently (&lt; 25% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Inconsistently (25%–75% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Usually (75%–90% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Constantly (&gt; 90% of the time) demonstrates proficiency for all aspects expected of a graduating resident, fellow, or junior independent practitioner</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates consistency and proficiency beyond expectations for a graduating resident, fellow, or junior independent practitioner</li> </ul>