



Transplant Nephrology Milestones

The Accreditation Council for Graduate Medical Education



ACGME

First Revision: 2026

Implementation: July 2027

Transplant Nephrology Milestones

The Milestones are designed only for use in evaluation of fellows in the context of their participation in ACGME-accredited fellowship programs. The Milestones provide a framework for the assessment of the development of the fellow in key dimensions of the elements of physician competence in a 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.

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Transplant Nephrology Milestones

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

ACGME Internal Medicine Review Committee

American Society of Nephrology

American Society of Transplantation

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 their educational program just as a senior fellow may be at a lower level later in their 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 iv).

Additional Notes

Level 4 is designed as a graduation goal but does not represent a graduation requirement. Making decisions about readiness for graduation and unsupervised practice is the purview of the program director. Furthermore, Milestones 2.0 include revisions and changes that preclude using Milestones as a sole assessment in high-stakes decisions (i.e., determination of eligibility for certification or credentialing). Level 5 is designed to represent an expert fellow whose achievements in a subcompetency are greater than the expectation. Milestones are primarily designed for formative, developmental purposes to support continuous quality improvement for individual learners, education programs, and the specialty. The ACGME and its partners will continue to evaluate and perform research on the Milestones to assess their impact and value.

Some milestone descriptions include statements about performing independently. These activities must occur in conformity to ACGME supervision guidelines as described in the Program Requirements, as well as to institutional and program policies. For example, a fellow who performs a procedure independently must, at a minimum, be supervised through oversight.

A Supplemental Guide is also available to provide the intent of each subcompetency, examples for each level, assessment methods or tools, and other available resources. The Supplemental Guide, like examples contained within the Milestones, is designed only to assist the program director and Clinical Competency Committee, and is not meant to demonstrate any required element or outcome.

Supplemental Guides and other resources are available on the Milestones page of each specialty section of the ACGME website. On www.acgme.org, choose the applicable specialty under the “Specialties” menu, then select the “Milestones” link in the lower navigation bar.

Systems-based Practice 3: Physician Role in Healthcare Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies key components of the complex healthcare system (e.g., hospital, finance, personnel, technology)	Describes how components of a complex healthcare system are inter-related, and how this impacts patient care	Discusses how individual practice affects the broader system (e.g., length of stay, readmission rates, clinical efficiency)	Manages various components of the complex healthcare system to provide efficient and effective patient care	Advocates for or leads systems change that enhances high value, efficient and effective patient care
Describes basic health payment systems, including (e.g., government, private, public, uninsured care) and practice models	Delivers care with consideration of each patient's payment model (e.g., insurance type)	Engages with patients in shared-decision making, informed by each patient's payment models	Advocates for patient care needs (e.g., community resources, patient assistance resources) with consideration of the limitations of each patient's payment model	Participates in health policy advocacy activities
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				

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-Transplant Candidate				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies the indications and contraindications for kidney transplantation, donor options, and components of a pre-transplant evaluation and workup	Performs pre-transplant evaluation and formulates a workup plan, including donor options, for a transplant candidate with low medical complexities with guidance	Independently performs pre-transplant evaluation and formulates a workup plan for a transplant candidate with low medical complexities	Performs pre-transplant evaluation and formulates a workup plan for a transplant candidate with high medical complexities	Performs pre-transplant evaluation with advanced decision-making to formulate a workup plan and path to transplant for a candidate with rare or high medical complexity
Describes selection process and waitlist management requirements	Participates in selection process and waitlist management	Formulates a plan for status change, maintaining transplant readiness, or delisting, with guidance	Formulates a plan for status change, maintaining transplant readiness, or delisting	Uses advanced decision-making to formulate a plan for candidate status change, transplant readiness maintenance, or delisting
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Patient Care 2: Living Kidney Donor				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies the benefits, risks, and contraindications to living donation, and components of donor evaluation, workup, and selection	Performs donor evaluation and formulates a workup plan for a donor candidate, with guidance	Independently performs donor evaluation and formulates a workup plan for a donor candidate	Performs donor evaluation and formulates a workup plan for a higher risk donor candidate	Performs donor evaluation with advanced decision-making to formulate a novel workup plan, path to donation, and post-donation follow-up for a higher risk candidate
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Patient Care 3: Post-Transplant Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Describes institutional practices to care for patients, including immunological and nonimmunological complications, acute and long-term monitoring	Identifies and manages common immunological and nonimmunological complications, with guidance	Independently identifies and manages common immunological and nonimmunological complications	Independently identifies and manages complex immunological and nonimmunological complications, including cases requiring deviations from institutional practices	Manages the interdisciplinary team to formulate a care plan to achieve the best possible outcome
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Medical Knowledge 1: Immunology and Histocompatibility				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of the immune system and histocompatibility testing as it relates to transplant	Demonstrates advanced knowledge of the immune system and histocompatibility testing as it relates to transplant	Applies basic knowledge of immunology and histocompatibility to the management of transplant candidates and recipients	Applies advanced knowledge of immunology and histocompatibility to the management of immunologically complex transplant candidates and recipients	Researches literature and disseminates newly described and emerging concepts in immunology and histocompatibility as they apply to transplant candidates and recipients
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Medical Knowledge 2: Transplant Pharmacology and Therapeutics				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of transplant medications, including mechanisms of action	Demonstrates knowledge of pharmacokinetics, pharmacodynamics, and drug interactions of transplant medications	Applies knowledge of therapeutic monitoring to avoid drug toxicity and ensure adequate immunosuppression	Applies knowledge of transplant therapeutics to individualize care of recipients with transplant-related complications and in populations with unique needs	Researches literature and applies knowledge of newly described and emerging transplant therapeutics
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Medical Knowledge 3: Transplant Diagnostics (Pathology, Lab, Radiology)				
Level 1	Level 2	Level 3	Level 4	Level 5
Explains the indications, risks, and benefits for common diagnostic modalities	Interprets results of common diagnostic modalities	Integrates cost, utility, and test characteristics of diagnostic modalities in decision-making	Integrates and reconciles patient-specific information with diagnostic modalities to form a cohesive assessment and develop an individualized treatment plan	Recognizes and applies emerging, novel diagnostic modalities and technologies
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Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

Medical Knowledge 4: Organ Procurement, Allocation, and Donor Selection				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of basic principles of organ procurement and allocation for living and deceased donors, including donor options	Demonstrates knowledge of advanced principles of organ procurement and allocation for living and deceased donors, including donor options	Applies knowledge of organ procurement and deceased donor and living donor options to the care of kidney transplant patients	Applies knowledge of organ procurement and deceased donor and living donor options to the care of patients with medical complexities, including candidates for multi-organ transplant or those with unique needs	Recognizes and applies emerging, novel strategies as they apply to donor selection and organ allocation practices
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Comments: Not Yet Completed Level 1 ☐ Not Yet Assessable ☐				

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 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	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
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Comments: Not Yet Completed Level 1 ☐				

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 the interprofessional teams	Coordinates care of patients in complex clinical situations, effectively using the roles of the interprofessional teams	Role models effective coordination of patient-centered care among different disciplines and specialties	Critically 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	Performs effective transitions of care in routine clinical situations	Performs effective transitions of care in complex clinical situations	Role models and advocates for effective transitions of care within and across health care delivery systems	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	Demonstrates general knowledge of barriers to transplantation and adherence of care	Identifies barriers to transplantation and adherence of care in specific populations	Adapts practice to address barriers to transplantation and adherence of care, and to provide for the needs of specific populations	Leads innovations and advocates for populations with health care barriers
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Comments: Not Yet Completed Level 1 ☐				

Systems-Based Practice 3: Physician Role in Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies key components of the complex health care system (e.g., hospital, finance, personnel, technology)	Describes how components of a complex health care system are inter-related, and how this impacts patient care	Discusses how individual practice affects the broader system (e.g., length of stay, readmission rates, clinical efficiency)	Manages various components of the complex health care system to provide efficient and effective patient care	Advocates for or leads systems change that enhances high-value, efficient, and effective patient care
Describes basic health payment systems (e.g., government, private, public, uninsured care) and practice models	Delivers care with consideration of each patient's payment model (e.g., insurance type)	Engages with patients in shared decision-making, informed by each patient's payment models	Advocates for patient care needs (e.g., community resources, patient assistance resources) with consideration of the limitations of each patient's payment model	Participates in health policy advocacy activities
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Comments: Not Yet Completed Level 1 ☐				

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates how to access and use available evidence and incorporate patient preferences and values to take care of a routine patient	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 participates in the development of guidelines
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Comments: Not Yet Completed Level 1 ☐				

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 which contribute to gap(s) between expectations and actual performance	Analyzes and reflects on the factors which 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
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Comments: Not Yet Completed Level 1 ☐				

Professionalism 1: Professional Behavior and Ethical Principles				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates professional behavior in routine situations Demonstrates knowledge of the ethical principles underlying informed consent, confidentiality, and stewardship of limited resources	Demonstrates professional behavior in complex or stressful situations Recognizes need to seek help in managing and resolving straightforward ethical situations	Identifies and demonstrates insight into potential triggers for lapses in professional behavior Recognizes need to seek help in managing and resolving complex ethical situations	Acts to prevent lapses in professional behavior in oneself and others Recognizes and uses appropriate resources for managing and resolving ethical situations as needed (e.g., ethics consultations, literature review, risk management/legal consultation)	Serves as a role model to others for exceptional professional behavior Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution
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Comments: Not Yet Completed Level 1 ☐				

Professionalism 2: Accountability/Conscientiousness				
Level 1	Level 2	Level 3	Level 4	Level 5
Takes responsibility for failure to complete tasks and responsibilities, identifies potential contributing factors, and describes strategies for ensuring timely task completion in the future Responds promptly to requests or reminders to complete tasks and responsibilities	Performs tasks and responsibilities in a timely manner with appropriate attention to detail in routine situations Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner	Performs tasks and responsibilities in a timely manner with appropriate attention to detail in complex or stressful situations Proactively implements strategies to ensure that the needs of patients, teams, and systems are met	Recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner	Offers and implements strategies to make systems-level care responsibilities more efficient
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Comments: Not Yet Completed Level 1 ☐				

Professionalism 3: Self-Awareness and Well-Being				
Level 1	Level 2	Level 3	Level 4	Level 5
With assistance, recognizes status of personal and professional well-being	Independently recognizes status of personal and professional well-being and seeks help when needed	With assistance, proposes a plan to optimize personal and professional well-being	Independently develops a plan to optimize personal and professional well-being (e.g., well-being survey, fatigue assessment)	Participates in a system change to improve well-being in self and others
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Comments: Not Yet Completed Level 1 ☐				

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
Uses language and nonverbal behavior to demonstrate respect and establish rapport Identifies common barriers to effective communication (e.g., language, disability) while accurately communicating own role within the health care system Identifies the need to adjust communication strategies to achieve shared decision-making	Establishes a therapeutic relationship in straightforward encounters using active listening and clear language Identifies complex barriers to effective communication (e.g., health literacy, cultural) Organizes and initiates communication with patient/patient's family to facilitate shared decision-making	Establishes a therapeutic relationship in challenging patient encounters When prompted, reflects on personal biases while attempting to minimize communication barriers With guidance, uses shared decision-making to implement a personalized care plan	Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity Independently recognizes personal biases while attempting to proactively minimize communication barriers Independently uses shared decision-making to implement a personalized care plan	Mentors others in situational awareness and critical self-reflection to consistently develop positive therapeutic relationships Role models self-awareness while identifying a contextual approach to minimize communication barriers Role models shared decision-making in patient/family communication, including situations with a high degree of uncertainty/conflict
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Comments: Not Yet Completed Level 1 ☐				

Interpersonal and Communication Skills 2: Patient and Family Education				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes link between effective patient education and transplant outcomes	Describes methods for effective patient and patient family education	Educates patients and their families effectively in straightforward situations, including eliciting understanding of information provided	Educates patients and their families effectively in complex situations	Educates patients and their families in self-advocacy, community outreach, and activism
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Comments: Not Yet Completed Level 1 ☐				

Interpersonal and Communication Skills 3: Interprofessional and Team Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Respectfully requests and/or receives a consultation Uses language that values all members of the health care team	Clearly and concisely requests and/or responds to a consultation request Communicates information effectively with all health care team members	Checks own understanding of consultant recommendations and/or understanding of recommendations when providing consultation Uses active listening to adapt communication style to fit team needs	Coordinates recommendations from different members of the health care team to optimize patient care and resolve conflicts over recommendations	Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed
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Comments: Not Yet Completed Level 1 ☐				

Interpersonal and Communication Skills 4: Communication Within Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Accurately records information in the patient record and safeguards patient personal health information	Documents diagnostic and therapeutic reasoning in the patient record in a timely manner Appropriately selects and uses direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) forms of communication based on context	Demonstrates advanced diagnostic and therapeutic reasoning in the patient record Demonstrates effective use of direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) forms of communication based on context	Communicates clearly, concisely, in a timely manner, and in an organized written form, including anticipatory guidance Achieves written and/or verbal communication (patient notes, email, etc.) that serves as an example for others to follow	Models feedback to improve others' written communication Guides departmental or institutional communication around policies and procedures
☐	☐	☐	☐	☐
Comments: Not Yet Completed Level 1 ☐				