# Pediatric Nephrology Milestones

The Accreditation Council for Graduate Medical Education



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## Pediatric Nephrology Milestones

The Milestones are designed only for use in evaluation of fellows in the context of their participation in ACGMEaccredited residency or fellowship programs. The Milestones provide a framework for the assessment of the development of the fellow in key dimensions of the elements of physician competency in a specialty or subspecialty. They neither represent the entirety of the dimensions of the six domains of physician competency, nor are they designed to be relevant in any other context.

### **Pediatric Nephrology Milestones Work Group**

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American Board of Pediatrics American Academy of Pediatrics Training Program Directors Council Association of Pediatric Program Directors Council of Pediatric Subspecialties ACGME Review Committee for Pediatrics

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#### **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 fellows' 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 the educational program just as a senior fellow may be at a lower level later in the educational program. There is no predetermined timing for a fellow to attain any particular level. Fellows may also regress in achievement of their milestones. This may happen for many reasons, such as over scoring in a previous review, a disjointed experience in a particular procedure, or a significant act by the fellow.

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

#### **Additional Notes**

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

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

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.

Additional resources are available in the <u>Milestones</u> section of the ACGME website. Follow the links under "What We Do" at <u>www.acgme.org</u>.

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.

Systems-Based Practice 1: Patient Safety				
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 patients' families (simulated or actual)	Discloses patient safety events to patients and patients' families (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
Comments:				
Selecting a response box in the middle of a level implies that milestones in that level and in lower levels have been substantially demonstrated.		Selecting a response b between levels indicate in lower levels have be demonstrated as well a milestones in the highe	es that milestones en substantially as <b>some</b>	

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Patient Care 1: Organization and Prioritization of Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Organizes patient care responsibilities by focusing on a subset of patients	Organizes and prioritizes the simultaneous care of multiple patients, with guidance	Independently and efficiently prioritizes patient care based on level of acuity and available resources	Independently anticipates patient care needs and utilizes available resources to optimize patient care when volume and acuity approach the capacity of the team	Serves as a role model and coach for prioritizing and delegating patient care responsibilities when patient volume and acuity are high
Comments: Not Yet Completed Level 1				

Patient Care 2: Acute Kidney Injury				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes patients with acute kidney injury with available clinical data	Creates a basic differential diagnosis for patients with acute kidney injury	Formulates a comprehensive differential diagnosis for patients with acute kidney injury	Independently formulates a prioritized differential diagnosis for patients with common and uncommon causes of acute kidney injury	Independently formulates a prioritized differential diagnosis with consideration of rare or newly recognized causes of acute kidney injury
Develops a basic diagnostic strategy, with guidance	Interprets diagnostic test results	Independently formulates a diagnostic strategy	Independently interprets and integrates advanced diagnostic test results	Integrates innovative diagnostic strategies into practice
Develops a basic management plan, with guidance	Identifies patients who need urgent treatment, including dialysis and medication adjustment	Develops a management plan, including dialysis modality selection and/or disease-specific treatment	Independently develops and implements a management plan with consideration of patient acuity and complexity	Formulates a management plan, incorporating emerging therapies
Comments: Not Yet Completed Level 1				

Patient Care 3: Chronic Dialysis Therapy				
Level 1	Level 2	Level 3	Level 4	Level 5
Lists the indication(s) for initiation of chronic dialysis and recognizes when chronic dialysis is inappropriate	Selects appropriate dialysis modality and writes patient-specific hemodialysis and peritoneal dialysis prescriptions	Initiates and modifies a dialysis prescription based on patient assessment	Independently manages patients receiving dialysis as part of the multidisciplinary team	Identifies the complexities of providing evidence- based equitable care to the population of patients receiving dialysis
Lists common complications in patients on chronic dialysis	Assesses for common complications of chronic dialysis	Treats common complications of chronic dialysis	Independently anticipates and manages common and uncommon complications of chronic dialysis	Anticipates and manages the breadth of comorbid medical and technical complications in the patient on dialysis
Identifies types of dialysis access and common access complications	Performs basic assessment of dialysis accesses	Develops a diagnostic and therapeutic plan for management of common access complications	Develops a diagnostic and therapeutic plan for management of uncommon access complications	Advocates at the institutional level for access preservation strategies
Comments: Not Yet Completed Level 1				

Patient Care 4: Chronic Kidney Disease				
Level 1	Level 2	Level 3	Level 4	Level 5
Develops a differential diagnosis of causes of chronic kidney disease	Expands the differential diagnosis	Reformulates the differential diagnosis as necessary for atypical disease presentations	Independently diagnoses common and uncommon causes of chronic kidney disease	Independently recognizes rare and newly described causes of chronic kidney disease
Develops a basic diagnostic plan for patients with chronic kidney disease	Modifies the diagnostic plan based on evolving clinical data for patients with chronic kidney disease, with guidance	Identifies patients with chronic kidney disease who require more evaluation, including kidney biopsy	Identifies indications for ordering advanced diagnostic studies	
Identifies stages of chronic kidney disease and how they relate to patient prognosis	Develops a basic management plan to treat complications and slow progression of chronic kidney disease	Implements an evidence- based management plan for chronic kidney disease complications and discusses treatment options	Independently leads the preparation for the next steps in management of progressive chronic kidney disease and integrates patient- specific goals of care	Identifies candidates for enrollment in research or novel and emerging therapies
Comments: Not Yet Completed Level 1				

Patient Care 5: Transplant				
Level 1	Level 2	Level 3	Level 4	Level 5
Discusses indications and contraindications for kidney transplantation	Identifies patients eligible for kidney transplantation referral	Evaluates patients for kidney transplantation, with guidance	Independently evaluates patients for kidney transplantation as part of the multidisciplinary team	Manages a kidney transplant and leads a multidisciplinary team
Lists induction and maintenance immunosuppressive and prophylaxis therapies	Discusses the principles of routine post-transplant clinical management	Manages transplant recipients, with guidance	Independently manages transplant recipients	Manages transplant patient care protocols for the institution
Recognizes the potential complications in the immediate and late post- transplant period	Generates a differential diagnosis for common complications and proposes an initial management plan	Generates a comprehensive differential diagnosis for uncommon complications and implements a management plan	Independently diagnoses, works up, and manages complications	
Comments: Not Yet Completed Level 1 Not Yet Assessable				

Patient Care 6: Fluids, Electrolytes, and Acid-Base Disorders				
Level 1	Level 2	Level 3	Level 4	Level 5
Creates a differential diagnosis and initial diagnostic plan	Develops a comprehensive differential diagnosis, recommends initial diagnostic testing, and identifies patients who require urgent treatment	Develops a prioritized differential diagnosis, interprets diagnostic test results, and implements a comprehensive management plan, with guidance	Independently formulates a differential diagnosis, including common and uncommon causes, and adjusts management plan based on patient response	Independently and effectively manages unusual, rare, or complex fluid and/or electrolyte disorder(s)
Comments: Not Yet Completed Level 1				

Patient Care 7: Hypertension				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies patients with hypertension	Develops a differential diagnosis of hypertension and proposes an initial diagnostic and management plan	Formulates a diagnostic strategy, interprets the results of specialized testing, and adjusts management plan based on results and patient comorbidities, with guidance	Independently develops and implements a management plan for patients with hypertension, and adjusts therapy based on patient acuity and complexity	Independently and effectively manages unusual, rare, or complex presentations of hypertension
Comments: Not Yet Completed Level 1				

Patient Care 8: Glomerular Disease				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies patients with glomerular disease and distinguishes between patients with nephritis and nephrotic syndromes	Develops a differential diagnosis of glomerular disease and proposes an initial diagnostic and management plan	Formulates a diagnostic strategy, interprets the results of specialized testing (including biopsy), and adjusts management plan based on results, with guidance	Independently develops and implements a management plan for patients with glomerular diseases, and adjusts therapy based on patient acuity and complexity	Independently and effectively manages unusual, rare, or complex presentations of glomerular diseases
Comments: Not Yet Completed Level 1				

Patient Care 9: Competence in Procedures				
Level 1	Level 2	Level 3	Level 4	Level 5
Discusses the indications for and assists with all procedures	Performs procedures, with direct supervision	Competently performs procedures, with indirect supervision	Proficiently and independently performs procedures	Serves as an educational resource for procedures and their complications
Discusses potential procedural complications	Recognizes complications of procedures and enlists help	Manages complications of procedures, with supervision	Anticipates and independently manages complications of procedures	
Comments: Not Yet Completed Level 1				

Medical Knowledge 1: Clinical Reasoning				
Level 1	Level 2	Level 3	Level 4	Level 5
Organizes and accurately summarizes information obtained from the patient evaluation to develop a clinical impression	Integrates information from all sources to develop a basic differential diagnosis for common patient presentations	Develops a thorough and prioritized differential diagnosis for common patient presentations	Synthesizes subtle, unusual, or conflicting findings to prioritize differential diagnoses in complex patient presentations	Coaches others to develop prioritized differential diagnoses in complex patient presentations
	Identifies clinical reasoning errors within patient care, with guidance	Retrospectively applies clinical reasoning principles to identify errors	Continually re-appraises one's own clinical reasoning to improve patient care in real time	Models how to recognize errors and reflect upon one's own clinical reasoning
Comments: Not Yet Completed Level 1				

Medical Knowledge 2: P	hysiology and Pathophysic	blogy		
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies key physiological and pathophysiological concepts	Demonstrates knowledge of more complex physiology and pathophysiology	Applies knowledge of physiology and pathophysiology to diagnosis and management of routinely encountered conditions and presentations	Integrates knowledge of physiology and pathophysiology with diagnosis and management of more complex conditions and presentation	Synthesizes newly described and emerging clinical physiology and pathophysiology concepts with diagnosis and management
Comments: Not Yet Completed Level 1				

Systems-Based Practice 1: Patient Safety					
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	
Comments: Not Yet Completed Level 1					

Systems-Based Practice 2: Quality Improvement					
Level 1	Level 2	Level 3	Level 4	Level 5	
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	
Comments:			Not Yet C	ompleted Level 1	

Level 1	Level 2	Level 3	Level 4	Level 5
Lists the various interprofessional individuals involved in the patient's care coordination	Coordinates care of patients in routine clinical situations, incorporating interprofessional teams with consideration of patient and family needs	Coordinates care of patients in complex clinical situations, effectively utilizing the roles of interprofessional teams, and incorporating patient and family needs and goals	Coordinates interprofessional, patient-centered care among different disciplines and specialties, actively assisting families in navigating the health care system	Coaches others in interprofessional, patient- centered care coordination
Comments:				

Systems-Based Practice 4: System Navigation for Patient-Centered Care – Transitions in Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Uses a standard template for transitions of care/hand-offs	Adapts a standard template, recognizing key elements for safe and effective transitions of care/hand-offs in routine clinical situations	Performs safe and effective transitions of care/hand-offs in complex clinical situations, and ensures closed-loop communication	Performs and advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems, including transitions to adult care	Coaches others in improving transitions of care within and across health care delivery systems to optimize patient outcomes
Comments:				

Systems-Based Practice 5: Population and Community Health				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates awareness of population and community health needs and disparities	Identifies specific population and community health needs and disparities; identifies local resources	Uses local resources effectively to meet the needs and reduce health disparities of a patient population and community	Adapts practice to provide for the needs of and reduce health disparities of a specific population	Advocates at the local, regional, or national level for populations and communities with health care disparities
Comments:				

Systems-Based Practice 6: Physician Role in Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Engages with patients and other providers in discussions about cost- conscious care and key components of the health care delivery system	Identifies the relationships between the delivery system and cost- conscious care and the impact on the patient care	Discusses the need for changes in clinical approaches based on evidence, outcomes, and cost-effectiveness to improve care for patients and families	Advocates for the promotion of safe, quality, and high-value care	Coaches others to promote safe, quality, and high-value care across health care systems
Comments:				

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice					
Level 1	Level 2	Level 3	Level 4	Level 5	
Develops an answerable clinical question and demonstrates how to access available evidence, with guidance	Independently articulates clinical question and accesses available evidence	Locates and applies the evidence, integrated with patient preference, to the care of 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	
Comments:	Comments:				

Level 1	Level 2	Level 3	Level 4	Level 5
Participates in feedback sessions	Demonstrates openness to feedback and performance data	Seeks and incorporates feedback and performance data episodically	Seeks and incorporates feedback and performance data consistently	Role models and coaches others in seeking and incorporating feedback and performance data
Develops personal and professional goals, with assistance	Designs a learning plan based on established goals, feedback, and performance data, with assistance	Designs and implements a learning plan by analyzing and reflecting on the factors which contribute to gap(s) between performance expectations and actual performance	Adapts a learning plan using long-term professional goals, self- reflection, and performance data to measure its effectiveness	Demonstrates continuous self-reflection and coaching of others on reflective practice

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Professionalism 1: Professional Behavior				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies expected professional behaviors and potential triggers for lapses	Demonstrates professional behavior with occasional lapses	Maintains professional behavior in increasingly complex or stressful situations	Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others	Models professional behavior and coaches others when their behavior fails to meet professional expectations
Identifies the value and role of pediatric nephrology as a vocation/career	Demonstrates accountability for patient care as a pediatric nephrologist, with guidance	Fully engages in patient care and holds oneself accountable	Exhibits a sense of duty to patient care and professional responsibilities	Extends the role of the pediatric nephrologist beyond the care of patients by engaging with the community, specialty, and medical profession as a whole
Comments: Not Yet Completed Level 1				

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of the ethical principles underlying informed consent, surrogate decision making, advance directives, confidentiality, error disclosure, stewardship of limited resources, and related topics	Applies ethical principles in common situations	Analyzes complex situations using ethical principles to address conflict/controversy; seeks help when needed to manage and resolve complex ethical situations	Manages and seeks to resolve ethical dilemmas using appropriate resources (e.g., ethics consultations, literature review, risk management/legal consultation)	Called upon by others to consult in cases of complex ethical dilemmas; identifies and seeks to address system level factors that induce or exacerbate

Professionalism 3: Accountability/Conscientiousness				
Level 1	Level 2	Level 3	Level 4	Level 5
Performs tasks and responsibilities, with prompting	Performs tasks and responsibilities in a timely manner in routine situations	Performs tasks and responsibilities in a thorough and timely manner in complex or stressful situations	Coaches others to ensure tasks and responsibilities are completed in a thorough and timely manner in complex or stressful situations	Creates strategies to enhance others' ability to efficiently complete tasks and responsibilities
Comments: Not Yet Completed Level 1				

Professionalism 4: Well-Being					
Level 1	Level 2	Level 3	Level 4	Level 5	
Recognizes the importance of addressing personal and professional well-being	Describes institutional resources that are meant to promote well-being	Recognizes institutional and personal factors that impact well-being	Describes interactions between institutional and personal factors that impact well-being	Coaches and supports colleagues to optimize well-being at the team, program, or institutional level	
Comments:	Comments:				

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.

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates respect and attempts to establish rapport	Establishes a therapeutic relationship in straightforward encounters	Establishes a culturally competent and therapeutic relationship in most encounters	Establishes a therapeutic relationship in straightforward and complex encounters, including those with ambiguity and/or conflict	Mentors others to develop positive therapeutic relationships
Attempts to adjust communication strategies based upon patient/family expectations	Adjusts communication strategies as needed to mitigate barriers and meet patient/family expectations	Communicates with sensitivity and compassion, elicits patient/family values, and acknowledges uncertainty and conflict	Uses shared decision making with patient/family to make a personalized care plan	Models and coaches others in patient- and family-centered communication

Level 1	Level 2	Level 3	Level 4	Level 5
Respectfully requests a consultation, with guidance	Clearly and concisely requests consultation by communicating patient information	Formulates a specific question for consultation and tailors communication strategy	Coordinates consultant recommendations to optimize patient care	Maintains a collaborative relationship with referring providers that maximizes adherence to practice recommendations
Identifies the members of the interprofessional team	Participates within the interprofessional team	Uses bi-directional communication within the interprofessional team	Facilitates interprofessional team communication	Coaches others in effective communication within the interprofessional team

Level 1	Level 2	Level 3	Level 4	Level 5
Records accurate information in the patient record	Records accurate and timely information in the patient record	Concisely documents updated, prioritized, diagnostic and therapeutic reasoning in the patient record	Documents diagnostic and therapeutic reasoning, including anticipatory guidance	Models and coaches others in documenting diagnostic and therapeutic reasoning
Identifies the importance of and responds to multiple forms of communication (e.g., in- person, electronic health record (EHR), telephone, email)	Selects appropriate method of communication, with prompting	Aligns type of communication with message to be delivered (e.g., direct and indirect) based on urgency and complexity	Demonstrates exemplary written and verbal communication	Coaches others in written and verbal communication