Pediatric Transplant Hepatology Milestones

The Accreditation Council for Graduate Medical Education



Implementation Date: July 2023 Second Revision: July 2023 First Revision: January 2014

Pediatric Transplant Hepatology Milestones

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

Pediatric Transplant Hepatology Milestones Work Group

Mary Ayers, MD Laura Edgar, EdD, CAE

Niviann Blondet, MD Sakil Kulkarni, MD

Catherine A. Chapin, MD

Naseem Ravanbakhsh, MD

Tess Coker, MD Katherine Sweeny, MD

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

American Board of Pediatrics

Association of Pediatric Program Directors

Council of Pediatric Subspecialties

ACGME Review Committee for Pediatrics

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.

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.

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: Not Yet Completed Level 1				
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 between levels indicar in lower levels have be demonstrated as well milestones in the high	tes that milestones een substantially as some	

Patient Care 1: History and Physical Exam				
Level 1	Level 2	Level 3	Level 4	Level 5
Acquires a comprehensive and developmentally appropriate pediatric medical history and physical examination	Acquires a pediatric transplant hepatology history and focused physical examination, including pertinent positives and negatives	Acquires a focused pediatric transplant hepatology history with historical subtleties, including psychosocial and physical functioning, and performs a focused physical examination	Acquires the complete patient history and physical examination, interprets subtleties, and determines tailored assessment of disease activity for a patient with a complex presentation	Serves as a role model in acquiring the complete patient history and physical examination, interpreting subtleties, recognizing ambiguities, and determining tailored assessment of disease activity for a patient with a complex presentation
Comments: Not Yet Completed Level 1 Not Yet Assessable				

Patient Care 2: Organize and Prioritize Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Organizes patient care tasks, with assistance	Organizes patient care tasks and needs assistance for patients with complex disease; recognizes urgent or emergent issues	Prioritizes patient care tasks with efficiency; anticipates urgent and emergent issues	Prioritizes patient care tasks and manages service independently	Serves as a role model for organizing, prioritizing, and managing patient care tasks
Comments: Not Yet Completed Level 1 Not Yet Assessable				

Patient Care 3: Patient Management in Pediatric Transplant Hepatology				
Level 1	Level 2	Level 3	Level 4	Level 5
Requires direct supervision to deliver patient care	Manages patients with straightforward diagnoses, with minimal assistance	Independently manages patients with straightforward diagnoses	Independently manages patients with complex and undifferentiated syndromes, and recognizes disease presentations that deviate from common patterns	Effectively manages unusual or rare disorders
Comments: Not Yet Completed Level 1 Not Yet Assessable				

Patient Care 4: Transplant Hepatology Procedures					
Level 1	Level 2	Level 3	Level 4	Level 5	
Identifies indications for procedures	Performs peri-procedural assessment and explains diagnostic procedures, including possible complications	Independently performs peri-procedural assessment and considers alternative procedures; interprets procedural findings with assistance	Independently interprets procedural findings and manages procedural complications	Serves as a role model for managing patients with comorbidities and procedural complications	
Comments:			Not Yet Co	ompleted Level 1	
			Not Yet A	ssessable	

Patient Care 5: Pre-Transplant Hepatology					
Level 1	Level 2	Level 3	Level 4	Level 5	
Identifies patients who are eligible for liver transplant evaluation	Evaluates patients using program selection criteria, with assistance	Independently evaluates patients, including complexities of selection criteria	Independently determines eligibility for listing a patient for transplant; performs ongoing reassessment for continued eligibility	Optimizes selection of patients to meet the ethical responsibility to the patient, the program, and the community	
Comments: Not Yet Completed Level 1 Not Yet Assessable					

Patient Care 6: Peri-Operative and Post-Transplant Hepatology					
Level 1	Level 2	Level 3	Level 4	Level 5	
Uses institutional protocols to care for patients, including immunosuppression, acute and long-term monitoring	Identifies and manages common acute and long-term complications, with assistance	Independently identifies and manages common complications, including complications of immunosuppression and comorbidities	Independently identifies and manages complex complications, including deviations from institutional protocols	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: Clinical Knowledge of Pediatric Transplant Hepatology (Non-Procedural)				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates basic knowledge of liver disorders, including diagnostic, therapeutic/ pharmacologic categories for prevention and treatment of disease	Demonstrates expanding knowledge of liver disorders, including diagnostic, therapeutic/ pharmacologic options for prevention and treatment of disease	Demonstrates broad knowledge of liver disorders, including diagnostic, therapeutic/ pharmacologic options for prevention and treatment of disease	Synthesizes advanced knowledge of liver disorders to select diagnostic, therapeutic/ pharmacologic options for prevention and treatment of disease	Demonstrates expert knowledge within a focused area
Not Yet Completed Level 1 Not Yet Assessable				

Medical Knowledge 2: Clinical Reasoning for Pediatric Transplant Hepatology				
Level 1	Level 2	Level 3	Level 4	Level 5
Creates a differential diagnosis and considers next steps in diagnostic evaluation	Creates a focused differential diagnosis and develops a diagnostic evaluation	Independently creates a prioritized differential diagnosis for a common patient presentation and develops a diagnostic evaluation	Independently creates a prioritized differential diagnosis for a less common patient presentation and develops a diagnostic evaluation	Recognizes rare presentations of common diagnoses and/or presentations of rare diagnoses and develops a diagnostic evaluation
	Maintains a fixed differential diagnosis despite new information	Consistently incorporates new information to adjust differential diagnosis	Consistently evaluates and adjusts differential diagnosis integrating available new information and recognizes factors that lead to bias	Is aware of cognitive biases and demonstrates behaviors to overcome them
Comments: Not Yet Completed Level 1 Not Yet Assessable				

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

Systems-Based Practice 3: System Navigation for Patient-Centered Care – Coordination of Care				
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:			Not Yet C	ompleted Level 1

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: Not Yet Completed Level 1				

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: Not Yet Completed Level 1					

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:	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
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: 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
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
Comments: Not Yet Completed Level 1				

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 transplant hepatology as a vocation/career	Demonstrates accountability for patient care as a pediatric transplant hepatologist, 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 transplant hepatologist beyond the care of patients by engaging with the community, specialty, and medical profession as a whole
Comments: Not Yet Completed Level 1				

Professionalism 2: Ethical Principles				
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 systemlevel factors that induce or exacerbate
Comments: Not Yet Completed Level 1				

Level 1	ountability/Conscientiousne	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 C	ompleted 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:			Not Yet C	ompleted 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
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
Comments: Not Yet Completed Level 1				

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

Interpersonal and Communication Skills 3: Communication within Health Care Systems				
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., inperson, 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
Comments: Not Yet Completed Level 1				

Interpersonal and Communication Skills 4: Complex Communication around Serious Illness				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes when a topic may be challenging when communicating with patients and their families	Assesses patients' and patients' families' situational awareness and identifies preferences for receiving challenging information	Communicates challenging information and attends to emotional responses of patients and patients' families	Anticipates needs of patients and their families and tailors communication according to the situation, emotional response, and medical uncertainty	Coaches others in the communication of challenging information
Comments: Not Yet Completed Level 1				