Supplemental Guide:
Pediatric Emergency Medicine

ACGME

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Milestones Supplemental Guide

This document provides additional guidance and examples for the Pediatric Emergency Medicine Milestones. This is not designed to indicate any specific requirements for each level, but to provide insight into the thinking of the Milestone Work Group.

Included in this document is the intent of each Milestone and examples of what a Clinical Competency Committee (CCC) might expect to be observed/assessed at each level. Also included are suggested assessment models and tools for each subcompetency, references, and other useful information.

Review this guide with the CCC and faculty members. As the program develops a shared mental model of the Milestones, consider creating an individualized guide (Supplemental Guide Template available) with institution/program-specific examples, assessment tools used by the program, and curricular components.

Additional tools and references, including the Milestones Guidebook, Clinical Competency Committee Guidebook, and Milestones Guidebook for Residents and Fellows, are available on the Resources page of the Milestones section of the ACGME website.

Patient Care 1: Performance of Focused History and Physical Exam **Overall Intent:** To abstract findings in patients with multiple current chronic medical problems and identify significant differences between a current presentation and past presentations	
Milestones	**Examples**
Level 1 *Performs and communicates a reliable, comprehensive patient history and physical exam*	● Sees a stable patient with a chief complaint of abdominal pain and independently performs and reports a complete history and physical exam
Level 2 *Performs and communicates a focused, developmentally appropriate patient history and physical exam, tailored to the patient's illness script*	● When a patient presents with a right lower quadrant abdominal pain and other comorbidities, identifies and reports the issues that urgently impact care and only presents relevant data ● Presents patient history and physical in an organized and concise manner
Level 3 *Integrates multiple sources of data to perform and communicate a focused, tailored patient history and physical exam*	● In a patient with an acute abdomen who cannot provide further history, promptly acts on information elicited from physical examination
Level 4 *Prioritizes essential components of a patient history and physical exam in limited or dynamic circumstances*	● Thoroughly reviews the electronic health record (EHR) and calls family members and primary care physician to obtain further history for a medically complex, nonverbal patient with abdominal pain
Level 5 *Models the skills necessary to perform a focused, tailored patient history and physical exam*	● When supervising learners, teaches and models nuanced approaches to information gathering such that subtle findings are not missed and appropriate patient management plans are developed
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Simulation ● Standardized patients
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. Entrustable Professional Activities for Subspecialties. https://www.abp.org/content/entrustable-professional-activities-subspecialties. Accessed 2021. ● King RW, Schiavone F, Counselman FL, Panacek EA. Patient care competency in emergency medicine graduate medical education: Results of a consensus group on patient care. *Acad Emerg Med*. 2002;9(11):1227-1235. https://pubmed.ncbi.nlm.nih.gov/12414476/. Accessed 2021.

Patient Care 2: Organization and Prioritization of Patient Care **Overall Intent:** To organize and appropriately prioritize patient needs to optimize patient outcomes	
Milestones	**Examples**
Level 1 *Organizes patient care for an individual patient when prompted*	● Sees a jaundiced baby and orders bilirubin level, when prompted
Level 2 *Organizes patient care responsibilities by focusing on individual (rather than multiple) patients*	● While evaluating a well-appearing newborn with hyperbilirubinemia one point above phototherapy threshold, a second patient with fever and neutropenia arrives; the fellow assesses and places orders for the neutropenic patient after the entire history, physical, and laboratory orders for the newborn are complete ● The fellow manages patients in series rather than in parallel
Level 3 *Organizes and prioritizes the simultaneous care of patients with efficiency; anticipates and triages urgent and emergent issues*	● While evaluating a well-appearing newborn with hyperbilirubinemia one point above phototherapy threshold, a second patient with fever and neutropenia arrives; the fellow excuses self from the newborn's room to rapidly evaluate the patient with neutropenia and places critical orders prior to returning to complete the remainder of the encounter with the patient with hyperbilirubinemia
Level 4 *Organizes, prioritizes, and delegates patient care responsibilities, even when patient volume approaches the capacity of the individual or facility*	● When caring for multiple patients in the emergency department, including a well-appearing newborn with hyperbilirubinemia one point above phototherapy threshold and a patient with fever and neutropenia, the fellow delegates the care of the newborn while taking the primary ownership of the patient with neutropenia since that patient has the greater potential to decompensate; once the neutropenic patient is stable and admitted, reviews newborn with hyperbilirubinemia with resident and verifies the history, physical, assessment, and plan
Level 5 *Serves as a role model and coach for organizing patient care responsibilities*	● After initial stabilization of both patients, reviews care as well as teaching points with the resident, and checks in with the nurse and family members for further questions
Assessment Models or Tools	● Audit of diagnoses and numbers of patients seen per shift in the emergency department or per session in a clinic ● Direct observation ● Multisource feedback ● Self-assessment
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. Entrustable Professional Activities for Subspecialties. https://www.abp.org/content/entrustable-professional-activities-subspecialties. Accessed 2021. ● Covey S. *The Seven Habits of Highly Effective People*. New York, NY: Simon & Schuster; 1989.

	● Ledrick D, Fisher S, Thompson J, Sniadanko M. An assessment of emergency medicine residents' ability to perform in a multitasking environment. *Academic Medicine*. 2009;84(9):1289-1294. https://pubmed.ncbi.nlm.nih.gov/19707074/. 2021.

Patient Care 3: Differential Diagnosis **Overall Intent:** To narrow and prioritize the list of weighted differential diagnoses to determine appropriate management, using all available data	
Milestones	**Examples**
Level 1 *Constructs a list of potential diagnoses based on the patient's chief complaint and initial assessment*	● Constructs a list of unprioritized differential diagnoses for a patient with wheezing
Level 2 *Provides a prioritized differential diagnosis*	● Develops a differential diagnosis for wheezing that leads with the conditions that pose the highest risk to morbidity and mortality
Level 3 *Integrates clinical facts into a unifying diagnosis(es) and reappraises in real time for patients with common conditions*	● Diagnoses asthma, taking into consideration the comorbidities that put the patient at high risk for respiratory failure
Level 4 *Integrates clinical facts into a unifying diagnosis(es) and reappraises in real time for patients with complex conditions*	● Recognizes subtle differences in a premature infant with viral syndrome presenting with wheezing that was more consistent with bronchiolitis as opposed to reactive airway disease responsive to bronchodilators
Level 5 *Serves as a role model and educator to other learners for deriving diagnoses*	● Educates learners about the subtleties of wheezing emphasizing the factors that help narrow the differential diagnosis and discussing the nuances of rare disease presentations (e.g., inhaled foreign bodies, congenital pulmonary malformations, cystic fibrosis variants, etc.)
Assessment Models or Tools	● Chart-stimulated recall ● Direct observation ● Multisource feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. Entrustable Professional Activities for Subspecialties. https://www.abp.org/content/entrustable-professional-activities-subspecialties. Accessed 2021. ● Council of Residency Directors in Emergency Medicine (CORD). Teaching Cases: Oral Board and Simulation Cases. https://www.cordem.org/resources/education--curricula/oral-board--sim-cases/. Accessed 2021. ● Croskerry P. *The Cognitive Autopsy: A Root Cause Analysis of Medical Decision Making.* 1st ed. New York, NY: Oxford University Press; 2020. ISBN: 9780190088743. ● Society to Improve Diagnosis in Medicine. Practice Improvement Tools. https://www.improvediagnosis.org/practice-improvement-tools/. Accessed 2021.

Patient Care 4: Diagnostic Studies **Overall Intent:** To apply the results of diagnostic testing based on the probability of disease and the likelihood of test results altering management	
Milestones	**Examples**
Level 1 *Determines the need for diagnostic studies* *Reports results of diagnostic studies*	● Evaluates a two-week-old infant for a fever and determines that a work-up is indicated ● Reports the results of diagnostic tests such as a complete blood count and identifies the absolute neutrophil count without interpretation
Level 2 *Selects appropriate diagnostic studies and understands their risks, benefits, and contraindications* *Interprets results of diagnostic testing*	● Independently follows diagnostic protocols for neonatal fever evaluation ● Independently interprets abnormal white blood count, urine analysis, and inflammatory markers
Level 3 *Prioritizes diagnostic studies based on differential diagnoses* *Applies clinical significance of diagnostic study results to clinical care*	● Considers other testing based on risk factors on history and physical exam (e.g., herpes simplex virus testing for febrile neonate with skin lesions) ● Manages positive diagnostic results such as nitrites on a urine analysis or positive gram stain on cerebrospinal fluid
Level 4 *Practices cost-effective ordering of diagnostic studies and identifies alternatives and the likelihood of studies altering management* *Identifies study limitations and discriminates between subtle and/or conflicting diagnostic results*	● Performs additional testing when indicated such as chest x-ray or respiratory viral studies in patients with respiratory symptoms only if it would alter management ● For a febrile neonate with a negative urine analysis, identifies that patient is still at risk for having a urinary tract infection and orders urine cultures
Level 5 *Educates others about the rationale in selection and interpretation of diagnostic studies in complex cases*	● Explains the rationale for different diagnostic and management approaches to a febrile infant when patients fall outside of standard protocols
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Simulation and case-based discussion ● Standardized patients
Curriculum Mapping	●

Notes or Resources	● The American Board of Pediatrics. Entrustable Professional Activities for Subspecialties. https://www.abp.org/content/entrustable-professional-activities-subspecialties. Accessed 2021. ● Choosing Wisely. American College of Emergency Physicians. https://www.choosingwisely.org/societies/american-college-of-emergency-physicians/. Accessed 2021. ● Jaeschke R, Guyatt G, Sackett DL. Users' guides to the medical literature. III. How to use an article about a diagnostic test. A. Are the results of the study valid? *JAMA*. 1994;271(5):389-391. https://pubmed.ncbi.nlm.nih.gov/8283589/. Accessed 2021. ● Jaeschke R, Guyatt GH, Sackett DL. Users' guides to the medical literature. III. How to use an article about a diagnostic test. B. What are the results and will they help me in caring for my patients?. *JAMA*. 1994;271(9):703-707. https://pubmed.ncbi.nlm.nih.gov/8309035/. Accessed 2021.

Patient Care 5: Patient Management **Overall Intent:** To create and execute comprehensive, patient-centered management plans, regardless of case complexity	
Milestones	**Examples**
Level 1 *Develops management plans for common conditions*	● Prescribes appropriate antibiotics for common infections (e.g., acute otitis media, cellulitis)
Level 2 *Manages patients with common conditions and other comorbidities*	● Tailors antibiotic plan for cellulitis to a patient with chronic medical problems and high risk for methicillin-resistant Staphylococcus aureus (MRSA)
Level 3 *Manages patients with uncommon conditions*	● Looks up a child's rare humoral deficiency syndrome, prior invasive infections and antibiotic susceptibilities, and tailors antibiotic choice accordingly
Level 4 *Manages patients with complicated and atypical diagnoses, and modifies management plans as necessary*	● Identifies the indications for hospitalization in a child with sickle cell disease and fever (e.g., white blood cell count, height of fever, change from baseline heartbeat) and modifies treatment plan accordingly ● Recognizes that a pneumonia's failure to respond to oral antibiotics and resultant patient respiratory failure is secondary to empyema, and appropriately broadens antimicrobial coverage and coordinates drainage with subspecialty consultation ● Creates alternative plan for iron infusion for patient whose family is Jehovah's Witness and declines a blood transfusion ● Sends prescriptions to the pharmacy early to ensure the medications will be available for the patient at the time of discharge ● Uses shared decision making to optimize insurance coverage of necessary treatments
Level 5 *Role models and coaches management of patients with complicated and atypical diagnoses*	● For a patient with congenital heart disease with shock, engages the team in discussing a management plan by considering the major therapeutic interventions and the evidence for and against each modality
Assessment Models or Tools	● Case-based discussion ● Chart audit ● Direct observation ● Multisource feedback
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. Entrustable Professional Activities for Subspecialties. https://www.abp.org/content/entrustable-professional-activities-subspecialties. Accessed 2021. ● Physicians draw upon other skills and knowledge sets to create management plans. Accordingly, many other milestones may overlap with this specific milestone (Systems-Based Practice 3, Practice-Based Learning and Improvement 1, Medical Knowledge 2) given its complexity. However, the primary focus is to consider the overall ability to create

	a management plan in various areas of complexity and a variety of situations. It may be useful to consider these themes that guide management decisions: ○ Involving patients and decision-making process ○ Integrating competing priorities (e.g., risks, benefits) and preferences ○ Tolerating uncertainty ○ Monitoring treatment response and adjusting as needed

Patient Care 6: Emergency Stabilization **Overall Intent:** To lead the multidisciplinary team in stabilizing and continually reassessing critically ill and injured patients	
Milestones	**Examples**
Level 1 *Identifies unstable patients and performs basic interventions*	● Identifies abnormal vital signs in adult and pediatric patients and knows when to call for help ● Performs a primary survey and begins basic interventions such as administering oxygen or intravenous fluids or controlling bleeding
Level 2 *Identifies patients at risk for clinical deterioration and initiates advanced resuscitation measures while escalating care*	● Initiates non-invasive positive pressure ventilation for an agitated, hypoxic toddler with bronchiolitis and prepares for an advanced airway
Level 3 *Reassesses and intervenes on patients after stabilizing interventions*	● Reassess the toddler with bronchiolitis who was placed on continuous positive airway pressure (CPAP) and determines the need to escalate to bi-level positive airway pressure ● Frequently reassess vital signs/blood pressure, performs a point-of-care-ultrasound exam, and assesses the clinical circulatory status in the patient with septic shock after initial fluid resuscitation
Level 4 *Leads resuscitations, including critical decision-making and integration of family and support services*	● Acts as team leader during a resuscitation by directing team roles, using closed-loop communication, making critical decisions such as cessation, and accurately and concisely summarizing patient status for a shared mental model at appropriate intervals ● Identifies patients who need transfer to higher levels of care; initiates hospital protocols such as massive transfusion protocol ● Integrates family presence and care preferences into resuscitations, using hospital resources (e.g., social workers, child life, chaplaincy) and direct communication with patients and families
Level 5 *Engages in systems-based approaches to optimize management of critically ill patients*	● Engages in the design, implementation, and evaluation of resuscitation protocols, checklists, and clinical practice guidelines
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● Academic Life in Emergency Medicine (ALiEM). Emergency Medicine Resident Simulation Curriculum for Pediatrics (EM ReSCu Peds) https://www.aliem.com/emrescupeds-em-resident-simulation-curriculum-pediatrics/. Accessed 2021. ● Agency for Healthcare Research and Quality (AHRQ). TeamSTEPPS: Team Performance Observation Tool. https://www.ahrq.gov/teamstepps/instructor/reference/tmpot.html. Accessed 2021.

	● AHRQ. TeamSTEPPS 2.0. https://www.ahrq.gov/teamstepps/instructor/index.html. Accessed 2021. ● The American Board of Pediatrics. Entrustable Professional Activities for Subspecialties. https://www.abp.org/content/entrustable-professional-activities-subspecialties. Accessed 2021. ● CORD. Standardized Direct Observation Tool. https://www.cordem.org/resources/residency-management/cord-standardized-assessment-methods/. Accessed 2021. ● EM Sim Cases. https://emsimcases.com/. Accessed 2021. ● McAlvin SS, Carew-Lyons A. Family presence during resuscitation and invasive procedures in pediatric critical care: A systematic review. *Am J Crit Care* 2014;23(6):477-484. https://pubmed.ncbi.nlm.nih.gov/25362671/. Accessed 2021.

Patient Care 7: Reassessment and Disposition **Overall Intent:** To re-evaluate patients throughout the emergency department course, use appropriate data and resources, and develop treatment plans and dispositions	
Milestones	**Examples**
Level 1 *Identifies the need for patient re-evaluation*	● Evaluates and treats a well-appearing infant with bronchiolitis in the early phase of illness ● Identifies need for patient to follow up with primary care physician
Describes basic disposition resources available	● Refers the patient to primary care physician for follow-up in one to two days
Describes basic patient education plans	● Describes treatment options for the infant with bronchiolitis
Level 2 *Monitors performance of necessary diagnostic and therapeutic interventions*	● For infants with bronchiolitis in mild to moderate respiratory distress, assesses them after nasopharyngeal suctioning and observes them in the emergency department for appropriate length of time to make safe disposition plans
Makes disposition decisions for patients needing minimal resources	● For the above patients' family, provides information about bronchiolitis and treatment options ● Considers expected progression of disease, symptoms requiring return to emergency department, parameters for admission, necessary follow-up care, etc.
Educates patients on simple discharge and admission plans	● Discharges well-appearing infants with bronchiolitis and explains to the patient's family parameters for safe discharge and the need for further monitoring at home; explains the need to follow up with the primary care physician and provides anticipatory guidance and return precautions ● Admits infants with bronchiolitis who require oxygen and explains to the patient's family why they are being admitted and what to expect during the patient's hospitalization; if transfer to another facility is required, explains reasons for need for transfer
Level 3 *Identifies changes in a patient's clinical status and evaluates effectiveness of diagnostic and therapeutic interventions at timely intervals*	● For a child with asthma exacerbation, initiates initial care with beta agonist therapy and steroids, reassesses patient 30 minutes later and recognizes worsening and severe respiratory distress, escalates treatment to non-invasive positive pressure ventilation, and reassesses the patient within 15 minutes to determine if further escalation of care is needed
Makes appropriate and timely disposition decisions for patients requiring varying levels of resources	● For any patient needing hospitalization, determines the appropriate service (medical versus surgical versus psychiatric) to assume primary care of the patient during their admission and most appropriate inpatient level of care based on patient needs, institutional protocols, and resources

Educates patients regarding diagnosis, treatment plan, medication review, and primary care physician/consultant appointments	● For any patient who can be discharged, explains to the patient's family the parameters the patient has met for safe discharge and the need for further monitoring at home; provides anticipatory guidance and return precautions ● Discusses the diagnosis of tibial fracture with the patient and reviews how to manage pain using over-the-counter medications and prescribed medications; reviews current medications for potential adverse drug-drug interactions and discusses the need for follow-up within a certain time frame ensuring the patient has either an appointment or access to make an appointment
Level 4 *Considers additional diagnoses and performs appropriate further diagnostic and therapeutic interventions*	● For a patient with multiple medical problems who fell down a flight of stairs after a syncopal episode, develops emergency department care plans to evaluate patient's syncope in addition to his traumatic injuries and coordinates with the trauma and hospital medicine teams, admission for this patient who is found to have multiple rib fractures, pulmonary contusions, fever, elevated white blood cell count, a urinary tract infection, and acute kidney injury
Coaches others on disposition decisions for requiring varying levels of resources	● For a patient with muscular dystrophy and severe respiratory distress, coaches emergency department team members to explore and address family's concerns and preferences regarding resuscitative measures to take, keep family members informed during the resuscitation, ensure completion of tasks necessary for post-resuscitative care, and coordinate patient's timely admission and transport to the intensive care unit (ICU)
Educates patients on complex discharge, admission, and transfer plans	● For a patient with leukemia who presents with fever, cough, and hypotension, recognizes sepsis and determines the patient requires intensive care unit admission; upon learning the patient prefers to be admitted to a different hospital (patient prefer to be at the children's hospital where she gets usual care), consults with the outside hospital's oncology and critical care teams and relates that the patient will require an ICU bed; informs patient and caregiver(s) of risks of transfer and coordinates transfer using critical care transportation
Level 5 *Participates in the development of materials, protocols, and systems to enhance patient education*	● Leads an interprofessional team to develop a video about influenza vaccination to be streamed in the emergency department waiting room
Assessment Models or Tools	● Clinical evaluations ● Direct observation ● Multisource evaluations ● Simulation exercises
Curriculum Mapping	●

Notes or Resources	● The American Board of Pediatrics. Entrustable Professional Activities for Subspecialties. https://www.abp.org/content/entrustable-professional-activities-subspecialties. Accessed 2021. ● Chan TM, Sherbino J, Welsher A, Chorley A, Pardhan A. Just the facts: How to teach emergency department flow management. *CJEM*. 2020;22(4):459-462. https://pubmed.ncbi.nlm.nih.gov/32401190/. Accessed 2021. ● Gridlocked Game. https://www.gridlockedgame.com/. Accessed 2021.

Patient Care 8: General Approach to Procedures **Overall Intent:** To perform the indicated procedure on all appropriate patients (including those who are uncooperative, hemodynamically unstable and have multiple comorbidities, poorly defined anatomy, high risk for pain or procedural complications, sedation requirement); to take steps to avoid potential complications and to recognize the outcome and/or complications resulting from the procedure	
Milestones	**Examples**
Level 1 *Identifies indications for a procedure and pertinent anatomy and physiology*	● Identifies the indications for basic emergency medicine procedures, such as simple laceration repair, splinting, simple abscess incision and drainage, and lumbar puncture; lists the involved anatomy ● After evaluating a patient with a stable distal fibular fracture and identifies the need for splint stabilization
Performs basic procedures, with guidance	● Applies a short-leg splint or performs simple laceration repair with assistance or feedback regarding equipment and suture placement ● Basic procedures may include simple laceration repair, uncomplicated lumbar puncture, chest compressions, fluorescein eye exam, nursemaid's elbow reduction, simple incision and drainage, bag-valve-mask (BVM) ventilation
Level 2 *Assesses indications, risks, benefits, and alternatives in low- to moderate-risk situations and obtains informed consent*	● When caring for a patient with a simple laceration, discusses the benefits of laceration repair and the risk of scarring or infection and obtains the patient's consent for a specific method
Performs and interprets basic procedures independently	● Performs simple laceration repair without assistance
Recognizes common complications	● Identifies wound infection, dehiscence
Level 3 *Assesses indications, risks, and benefits and weighs alternatives in high-risk situations*	● When repairing a facial laceration for a patient with well controlled asthma, considers risks versus benefits of using moderate versus deep sedation
Performs and interprets advanced procedures, with guidance	● Performs advanced procedures, such as complex layered closure; endotracheal intubation, placement of supraglottic airway device, electrocardioversion, central line placement, etc.
Manages common complications	● Removes sutures for infected wounds ● Manages airway compromise during procedural sedation
Level 4 *Acts to mitigate modifiable risk factors in high-risk situations*	● For a two-week-old infant with bronchiolitis, recognizes the risk of peri-intubation cardiac arrest

Performs and interprets advanced procedures independently *Independently recognizes and manages complex and uncommon complications*	● Administers moderate/deep sedation ● Independently manages laryngospasm during ketamine sedation
Level 5 *Teaches advanced procedures and independently performs rare, time-sensitive procedures* *Performs procedural peer review*	● Teaches thoracostomy ● Participates in peer-review processes that evaluate procedural competency
Assessment Models or Tools	● Clinical evaluations ● Direct observation ● Multisource evaluations ● Oral cases ● Procedural labs ● Simulation exercises
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. Entrustable Professional Activities for Subspecialties. https://www.abp.org/content/entrustable-professional-activities-subspecialties. Accessed 2021. ● ABP. Pediatric Emergency Medicine: Content Outline. https://www.abp.org/sites/abp/files/pdf/content-outline-emergency-medicine.pdf. Accessed 2021. ● Hughes PG, Crespo M, Maier T, Whitman A, Ahmed R. Ten tips for maximizing the effectiveness of emergency medicine procedure laboratories. *J Am Osteopath Assoc*. 2016;116(6):384-390. https://pubmed.ncbi.nlm.nih.gov/27214775/. Accessed 2021.

Patient Care 9: Provide Appropriate Supervision **Overall Intent:** To function as the leader of the emergency health care team for physicians at various levels of training and other health professionals; provides effective and efficient real-time management of the emergency department while addressing the needs of patients and their families, learners, and staff members	
Milestones	**Examples**
Level 1 *Provides supervision that aligns with patient care needs in simple scenarios, with guidance*	● With coaching from the attending, asks residents for updates on their patients and ascertains that patient orders are entered correctly ● Notices that the wrong radiographic study was ordered for a patient and asks the attending for guidance on how best to address the error before doing so ● Requires coaching or reminders from attendings to correctly display core pediatric advanced life support skills as team leader including assigning roles and closed-loop communication while providing care for a patient with status asthmaticus
Level 2 *Provides supervision that aligns with patient care needs in complex scenarios, with guidance*	● During a shift with a scheduled EHR downtime for maintenance, leads a team huddle at an appropriate time to discuss paper-based processes for care and potential safety pitfalls to avoid ● When a family asks to speak to the supervising doctor because they are dissatisfied with the emergency department care, discusses the communication strategy with the attending and requests that the attending be in the room during the discussion to provide “back-up” ● For a patient with sepsis who is hypotensive and has altered mental status, supervises airway management by the senior resident and provides clear instructions to the team, demonstrating core pediatric advanced life support skills as team leader with coaching from the attending physician
Level 3 *Tailors supervision to patient care, staff member, and learner needs*	● Effectively leads an emergency department team huddle, clearly setting expectations, including reminders to regularly update patients and families, asking learners for their learning objectives, and promoting a safe environment for team members to “ask for clarity” if anything feels unsafe to them ● Notices that several laboratory test results are delayed for their patients, contacts the bedside nurse and assigned resident, and discovers that a miscommunication between the two led to the delay; updates the families and the attending after ensuring the blood samples are submitted to the lab ● For a patient with multiple traumatic injuries who becomes pulseless in the emergency department, collaborates effectively with the surgical team to resuscitate the patient, and demonstrates core skills as team leader, requiring minimal if any coaching from the emergency department attending
Level 4 *Continually adjusts supervision to optimize patient safety and learner/staff member education*	● Checks in regularly with each patient’s emergency department care team to ask if there are any issues or questions

	● Notices that the wait times for patients in the emergency department waiting room are becoming prolonged and contacts the team's nurses and learners to prioritize patients awaiting discharge ● Uses different precepting styles (e.g., SNAPPS, Aunt Minnie, One-Minute Preceptor), appropriately tailored to the patient condition and learner competence and learning needs
Level 5 *Models reflective, flexible, and supportive supervision that optimally balances safe patient care with learner/staff member competence and professional development needs*	● Regularly huddles with the learners and nurses to "run the board," giving each team member a chance to provide updates, ask questions, and voice concerns ● Notices that several patients have prolonged emergency department lengths of stay and contacts emergency department nursing and/or emergency department operations leadership to troubleshoot a plan to expedite transfer of admitted patients out of the emergency department ● For a patient with septic shock, effectively coaches the senior level learner "at arm's length" to lead the bedside team in the patient's resuscitation and keeps the attending updated on the patient's status ● After a resuscitation for cardiac arrest, leads the emergency department team in debriefing and requests feedback on their performance as team leader
Assessment Models or Tools	● Direct attending assessment of patient/family encounters ● Direct observation ● Entrustable Professional Activities (EPAs) ● Faculty evaluations ● Multisource feedback ● Patient/Family evaluations/questionnaires ● Self-evaluations ● Simulation (low or high fidelity), e.g., mock code ● Teaching evaluations ● 360-degree evaluations
Curriculum Mapping	●
Notes or Resources	● ABP. Entrustable Professional Activities: EPA 6 for Pediatric Emergency Medicine. https://www.abp.org/sites/abp/files/pdf/emer_epa_6.pdf. Accessed 2021. ● Green GM, Chen Eh. Top 10 ideas to improve your bedside teaching in a busy emergency department. *Emerg Med J*. 2015;32(1):76-77. https://emj.bmj.com/content/32/1/76.long. Accessed 2021. ● Hauer KE, Ten Cate O, Boscardin C, et al. Understanding trust as an essential element of trainee supervision and learning in the workplace. *Adv Health Sci Educ Theory Pract*. 2014;19(3):435-456. https://link.springer.com/article/10.1007%2Fs10459-013-9474-4. 2021.

	● Hockberger R, La Duca A, Orr N, Reinhart M, Sklar D. Creating the model of a clinical practice: The case of emergency medicine. *Acad Emerg Med*. 2003;10(2):161-168. https://onlinelibrary.wiley.com/doi/abs/10.1197/aemj.10.2.161?sid=nlm%3Apubmed. 2021. ● Ramani S. Twelve tips to improve bedside teaching. *Med Teach*. 2003;25(2):112-115. https://www.tandfonline.com/doi/abs/10.1080/0142159031000092463. 2021. ● Ten Cate O, Hart D, Ankel F, et al. Entrustment decision making in clinical training. *Acad Med*. 2016;91(2):191-198. https://journals.lww.com/academicmedicine/Fulltext/2016/02000/Entrustment_Decision_Making_in_Clinical_Training.19.aspx. 2021. ● SNAPPS is the abbreviation for SNAPPS: (1) Summarize briefly the history and findings; (2) Narrow the differential to two or three relevant possibilities; (3) Analyze the differential by comparing and contrasting the possibilities; (4) Probe the preceptor by asking questions about uncertainties, difficulties, or alternative approaches; (5) Plan management for the patient's medical issues; and (6) Select a case-related issue for self-directed learning

Medical Knowledge 1: Scientific Knowledge/Clinical Knowledge **Overall Intent:** To understand the pathophysiology of the primary disease processes seen and treated in emergency medicine	
Milestones	**Examples**
Level 1 *Demonstrates basic medical knowledge*	● Correctly identifies normal versus abnormal vital signs for pediatric patients of different ages ● Accurately differentiates between normal and abnormal major developmental milestones in a pediatric patient ● Discusses basic knowledge about the evaluation, differential, work-up, and management of common presenting complaints; lists textbook answers for common conditions and uses decision aids
Level 2 *Links basic medical knowledge to clinical scenarios*	● Correctly identifies a temperature of 101ºF and respiratory rate of 55 breaths per minute as abnormal in a 10-year-old child, then uses pertinent positives and negatives from history and physical exam to offer reasonable diagnostic possibilities ● Articulates that discriminatory zoning laws can lead to unhealthy housing conditions that trigger patient's asthma ● Incorporates up-to-date evidence about common conditions; makes more complex presentations; starts to consider how thinking is influenced by the probability of disease
Level 3 *Applies medical knowledge to common and typical scenarios to guide patient care*	● Appropriately triages and creates a treatment plan for a 10-year-old child with a typical presentation of community-acquired pneumonia; uses clinical pathways/guidelines/order sets when appropriate ● Uses structural competency and social determinants of health frameworks to optimize patient care in common scenarios ● Explains how thinking is guided by a patient's presentation and weighs multiple factors to appropriately risk stratify and guide diagnostic and therapeutic plans, often incorporating emerging evidence
Level 4 *Integrates medical knowledge that includes complicated and atypical conditions to guide patient care*	● Appropriately triages and creates a treatment plan for a 10-year-old child with an atypical or complex presentation of community-acquired pneumonia, appropriately adapting from clinical pathways/guidelines/order sets; recognizes and modifies treatment appropriate to changes in clinical condition ● Works with care team and social worker to provide letter of medical necessity to improve patient's housing conditions and arranges follow-up care ● Masters basic and complex presentations while considering a wider differential diagnosis; explains reasoning why a patient is or is not at risk for these conditions and demonstrates the ability to risk stratify presenting complaints by integrating data from the literature, the patient’s presentation, and personal clinical experience

Level 5 *Pursues and integrates new and emerging knowledge*	● Actively teaches other learners about typical and atypical presentations of simple and complex pediatric problems, integrating teaching from various sources (e.g., textbook, evidence-based medicine, FOAMMed resources, etc.) ● Creates a learning module to address race-based differences in pain management ● Demonstrates commitment to lifelong learning; stays updated on current literature and often cites newest clinical guidelines for management
Assessment Models or Tools	● Direct observation (e.g., clinical rounds) ● Exercises ● In-training examination ● Medical record (chart) audit ● Multiple choice exams ● Oral board simulations ● Objective structured clinical examination (OSCE) ● Simulations
Curriculum Mapping	●
Notes or Resources	● ABP. Entrustable Professional Activities for General Pediatrics. https://www.abp.org/content/entrustable-professional-activities-general-pediatrics. 2021. ● Englander R, Carraccio C. Domain of competence: Medical knowledge. *Academic Pediatrics*. 2014;14(2)Supp:S36-S37. https://www.sciencedirect.com/science/article/abs/pii/S1876285913003240. 2021.

Medical Knowledge 2: Clinical Reasoning **Overall Intent:** To implement principles of heuristics and metacognition to mitigate cognitive errors and implicit biases in patient care	
Milestones	**Examples**
Level 1 *Recognizes cognitive errors, with substantial guidance*	● Demonstrates awareness of cognitive errors (e.g., anchoring, confirmation bias, premature closure) and can recognize them with guidance during clinical care ● Upon evaluating an unimmunized infant referred into the emergency department for bronchiolitis, sees that bacterial pneumonia is not on the differential diagnosis; with prompting and guidance from the preceptor, recognizes that anchoring may have played a role in the clinical reasoning
Level 2 *Applies clinical reasoning principles to retrospectively identify cognitive errors*	● Recognizes how the influence of fatigue, hunger, and stress may contribute to reasoning errors ● In reviewing the case of infantile pneumonia misdiagnosed as bronchiolitis, names anchoring bias, cognitive load, and potential implicit biases as potentially contributing to diagnostic error
Level 3 *Continually re-appraises one's clinical reasoning to prospectively minimize cognitive errors and manage uncertainty*	● Considers potential cognitive and implicit biases to care in real-time by engaging in metacognitive strategies, and adapts treatment plans accordingly ● Upon precepting, makes a deliberate effort to broaden the differential diagnosis, identifying that referred patient's diagnoses are prone to anchoring bias and that implicit and systemic racism may contribute to errors in care
Level 4 *Coaches others to recognize and avoid cognitive errors*	● Coaches others in metacognitive strategies to reduce cognitive and implicit bias ● Teaches learners about heuristics and how clinical reasoning is influenced by Bayesian logic, bias, and human cognition
Level 5 *Engages in systems-based approaches to mitigate cognitive errors*	● Implements cognitive forcing tools during sign-out ● Designs clinical practice guidelines and decision support tools ● Engages in scholarly activities to mitigate clinical errors and biases in care
Assessment Models or Tools	● Direct observation ● Medical record (chart) audit ● Multilevel feedback ● Multiple choice examinations ● Reflective writing ● Simulation
Curriculum Mapping	●
Notes or Resources	● Castillo EG, Isom J, DeBonis KL, et al. Reconsidering systems-based practice: Advancing structural competency, health equity, and social responsibility in graduate medical education. *Academic Medicine.* 2020;95(12):1817-1822. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8279228/. 2021.

	● Croskerry P. From mindless to mindful practice--cognitive bias and clinical decision making. *N Engl J Med*. 2013;368:2445-2448. https://pubmed.ncbi.nlm.nih.gov/23802513/. 2021. ● Croskerry P. The importance of cognitive errors in diagnosis and strategies to minimize them. *Academic Medicine.* 2003;78(8):775-780. https://journals.lww.com/academicmedicine/Fulltext/2003/08000/The_Importance_of_Cognitive_Errors_in_Diagnosis.3.aspx. 2021. ● Croskerry P, Petrie D, Reilly J, Tait G. Deciding about fast and slow decisions. *Acad Med*. 2014;89:197-200. https://pubmed.ncbi.nlm.nih.gov/24362398/. 2021. ● Dreiseitl S, Binder M. Do physicians value decision support? A look at the effect of decision support systems on physician opinion. *Artif Intell Med.* 2005;33(1):25-30. https://www.sciencedirect.com/science/article/pii/S0933365704001071?via%3Dihub. 2021. ● Eva KW, Norman GR. Heuristics and biases - A biased perspective on clinical reasoning. *Med Educ*. 2005;39(9):870-872. https://onlinelibrary.wiley.com/doi/10.1111/j.1365-2929.2005.02258.x. 2021. ● Friedman CP, Gatti GG, Franz TM, et al. Do physicians know when their diagnoses are correct? Implications for decision support and error reduction. *J Gen Intern Med*. 2005;20(4):334-339. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1490097/. 2021. ● Hall WJ, Chapman MV, Lee KM, et al. Implicit racial/ethnic bias among health care professionals and its influence on health care outcomes: A systematic review. *Am J Public Health*. 2015;105(12):e60-e76. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4638275/. 2021. ● Trowbridge R, Rencic J, Durning S. *Teaching Clinical Reasoning*. Philadelphia, PA: American College of Physicians; 2015. ISBN:978-1-938921-05-6.

Systems-Based Practice 1: Patient Safety **Overall Intent:** To engage in the analysis and management of patient safety events, including relevant communication with patients, families, and health care professionals	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of common patient safety events*	● Lists common patient safety events such as patient misidentification or medication errors
Demonstrates knowledge of how to report patient safety events	● Articulates "patient safety reporting system" or "patient safety hotline" as ways to report safety events
Level 2 *Identifies system factors that lead to patient safety events*	● Identifies that EHR default timing of orders as "routine" (without changing to "stat") may lead to delays in antibiotic administration time for sepsis
Reports patient safety events through institutional reporting systems (simulated or actual)	● Reports delayed antibiotic administration time using the appropriate reporting mechanism
Level 3 *Participates in analysis of patient safety events (simulated or actual)*	● Participates in department morbidity and mortality presentations, safety event analyses (simulated or actual), and/or quality improvement projects aimed at reducing racial disparities in medical care
Participates in disclosure of patient safety events to patients and patients' families (simulated or actual)	● With the support of an attending or risk management team member, participates in the disclosure of the performance of the wrong computerized tomography (CT) imaging to a patient and family
Level 4 *Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)*	● Leads a department safety event analysis related to a patient fall from a crib and develops an action plan that includes signs to remind caregivers to always put side rails up, place floor mats under cribs, and complete bedside shift report fall prevention checklists
Leads disclosures or discloses patient safety events to patients and patients' families (simulated or actual)	● Following consultation with risk management and/or other team members, independently discloses a medication error to a family
Level 5 *Engages in systems-level processes to prevent patient safety events*	● Leads a multidisciplinary team to work on improved medication reconciliation processes to prevent medication errors and considers biases amongst team members
Models and mentors others in the disclosure of patient safety events	● Conducts a simulation demonstrating techniques and approaches for disclosing patient safety events ● Teaches a course about the learner role in disclosure of patient safety events
Assessment Models or Tools	● Case-based discussion

	● Direct observation ● E-module multiple choice tests ● Guided reflection ● Medical record (chart) audit ● Multisource feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● ABP. Entrustable Professional Activities for General Pediatrics. https://www.abp.org/content/entrustable-professional-activities-general-pediatrics. Accessed 2021. ● Guralnick S, Ludwig S, Englander R. Domain of competence: Systems-based practice. *Academic Pediatrics*. 2014;14:S70-S79. https://www.acgme.org/Portals/0/PDFs/Milestones/Systems-basedPracticePediatrics.pdf. Accessed 2021. ● Institute of Healthcare Improvement. http://www.ihi.org/Pages/default.aspx. Accessed 2021. ● Singh R, Naughton B, Taylor JS, et al. A comprehensive collaborative patient safety residency curriculum to address the ACGME core competencies. *Med Educ*. 2005;39(12):1195-204. https://pubmed.ncbi.nlm.nih.gov/16313578/. Accessed 2021.

Systems-Based Practice 2: Quality Improvement (QI) **Overall Intent:** To conduct and/or participate in a quality improvement project	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of basic quality improvement methodologies and metrics*	● Describes quality assurance analysis tools and methods (e.g., cause-and-effect diagrams, run charts)
Level 2 *Describes emergency department-specific quality improvement initiatives*	● Summarizes protocols resulting in decreasing time to administration of pain medications in patients with sickle cell disease ● Identifies that QI projects include emergency department throughput and EHR order sets
Level 3 *Participates in emergency department-specific quality improvement initiatives*	● Collaboratively participates in a project focused on reducing time to delivering pain medication to patients with sickle cell disease
Level 4 *Demonstrates skills for identifying, developing, implementing, and analyzing emergency department-specific quality improvement projects*	● Develops key portions of an emergency department quality improvement project to improve time to administration of pain medications for patients with sickle cell disease, including developing a SMART (Specific, Measurable, Attainable, Realistic, Time-bound) objective plan, analyzing data, and monitoring progress and challenges
Level 5 *Creates, implements, and assesses quality improvement initiatives at the institutional or community level*	● Initiates and completes a quality improvement project to improve time to administration of pain medications for patients with sickle cell disease throughout the institution
Assessment Models or Tools	● Direct observation ● E-module multiple choice tests ● Medical record (chart) audit ● Multisource feedback ● Reflection ● Simulation
Curriculum Mapping	●
Notes or Resources	● Institute of Healthcare Improvement. Open School. http://www.ihi.org/education/IHIOpenSchool/Pages/default.aspx. Accessed 2021. ● Langley GJ, Moen RD, Nolan Km, et al. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. 2nd ed. San Francisco, CA: Jossey-Bass; 2009. ISBN:978-0470192412.

Systems-Based Practice 3: System Navigation for Patient-Centered Care **Overall Intent:** To effectively navigate multidisciplinary teams and healthcare systems to ensure high-quality outcomes for specific patient populations	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of care coordination* *Identifies key elements of safe and effective transitions of care/hand-offs*	● For a patient with acute leukemia, identifies the oncologist, home health nurse, and social workers as team members ● Identifies the need to coordinate care for a child with chronic disease in the foster care system ● Lists the essential components of a standardized hand-off tool and care transition
Level 2 *In routine clinical situations, effectively coordinates patient care, integrating the roles of interprofessional team members with consideration of the patient's and patient's family's needs and goals* *Performs safe and effective transitions of care/hand-offs in routine clinical situations*	● Coordinates care with the orthopedic clinic at the time of discharging a patient with a forearm fracture ● Routinely uses a standardized hand-off tool for a stable patient
Level 3 *In complex clinical situations, effectively coordinates patient care by integrating the roles of interprofessional team members and incorporating the patient's and patient's family's needs and goals* *Performs safe and effective transitions of care/hand-offs consistently in complex clinical situations*	● Works with the social worker to coordinate care for a child who resides in the foster care system to ensure follow-up after discharge ● Applies a standardized hand-off tool when transferring a patient to the intensive care unit (ICU) ensuring safe transition of care
Level 4 *Models and effectively coordinates patient-centered care among different disciplines and specialties* *Models and advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems*	● Coordinates care for home health nurse follow-up for peripherally inserted central catheters (PICC) line care ● Prior to discharge, communicates appropriate plan for urgent follow-up and further care in the outpatient setting

Level 5 *Analyzes the process of care coordination and leads in the design and implementation of improvements* *Contributes to improvements in quality of transitions of care/hand-offs within and across health care delivery systems to optimize patient outcomes*	● Leads a program to provide routine phone follow-up for complex discharges from the emergency department ● Develops a protocol to improve transitions for children in foster care
Assessment Models or Tools	● Direct observation ● Medical record (chart) audit ● Multisource feedback ● OSCE ● Quality metrics and goals mined from EHRs ● Review of sign-out tools, use and review of checklists
Curriculum Mapping	●
Notes or Resources	● Centers for Disease Control (CDC). Population Health Training. https://www.cdc.gov/pophealthtraining/whatis.html. Accessed 2021. ● Kaplan KJ. In Pursuit of Patient-Centered Care. Tissue Pathology; 2016. http://tissuepathology.com/2016/03/29/in-pursuit-of-patient-centered-care/#axzz5e7nSsAns. Accessed 2021. ● Skochelak SE, Hammoud MM, Lomis KD, et al. *AMA Education Consortium: Health Systems Science*. 2nd ed. Elsevier; 2021. ISBN:9780323694629.

Systems-Based Practice 4: Physician Role in Health Care Systems **Overall intent:** To advocate for cost-conscious, efficient, effective, and equitable care using principles of health systems science	
Milestones	**Examples**
Level 1 *Identifies basic health systems and payment models*	● Names key components of complex health care systems, including institutions (e.g., hospitals, skilled nursing facilities, outpatient clinics); personnel; technology (e.g., EHRs); legal/administrative systems (e.g., contracts, compliance); and finances (e.g., billing and coding, malpractice) ● Lists basic health care payment models (e.g., government, private, public, uninsured)
Recognizes structural factors and social determinants contributing to health inequities	● Identifies that economic oppression/poverty, structural racism, implicit biases, and adverse childhood experiences contribute to population-wide health care and outcome disparities
Level 2 *Describes how health care systems and payment models impact individual patient care and provider practice*	● Explains that improving patient satisfaction in the emergency department and facilitating referrals to a community-based asthma education program will empower families to follow through with child's asthma action plan ● Discusses the cost difference of emergency department observation versus admission for a patient who has undergone intussusception reduction
Translates knowledge of health inequities to specific patient populations	● Articulates how the hospital's proximity to a major interstate highway has led to increased community-based asthma prevalence, while also hindering access to care due to lack of public transportation infrastructures
Level 3 *Applies health care systems and payment knowledge to individual patient care and practice*	● Practices cost-effective management by deferring respiratory viral panel orders when they will not alter management ● Prescribes an inhaled corticosteroid that is covered by the patient's prescription drug plan ● Ensures that the chart for a critically ill child with asthma has appropriate documentation for critical care billing and coding ● Compiles and maintains procedure log in anticipation of applying for hospital privileges
Utilizes local resources to address structural and social determinants of health	● Screens and refers a family with food insecurity to the nearest Women Infants and Children (WIC) office ● Engages social work to enroll a patient with adverse childhood experiences into a trauma-informed care program ● Participates in an online curriculum to recognize and mitigate one's own implicit biases
Level 4 *Advocates for cost-conscious, effective, efficient, and equitable practices in daily practice*	● Creates comprehensive discharge instructions with EHR based referral orders for patients with concussive syndrome to prevent emergency department readmissions

	● Promotes use of a standardized contract review template for graduating learners applying for jobs ● Organizes mental health resources for patients who screen positive for adverse childhood experiences ● Participates in a research project analyzing the effects of implicit bias and structural racism on healthcare outcomes throughout the institution ● Initiates pilot of bias reduction tool during transfers of care to address potential implicit biases
Level 5 *Coaches others to promote cost-conscious, effective, and efficient care* *Contributes to innovations to reduce structural inequities in health care at the departmental and/or institutional level*	● Implements a Choosing Wisely curriculum and/or develops local evidence-based guidelines to promote cost-conscious care on a systems level ● Creates a career development curriculum that teaches core principles of health care economics and quality care to learners ● Leads team members in conversations around care gaps for LGBTQIA+ teens and creates a plan to improve care in the emergency department ● Educates colleagues on local or regional food deserts and coordinates activities such as developing a community garden or lobbying for local food market zoning ● Participates in longitudinal discussions with local, state, or national government policy makers to eliminate structural racism and reduce health disparities
Assessment Models or Tools	● Direct observation ● Medical record (chart) audit ● Patient satisfaction data ● Patient safety conference ● Review and guided reflection on costs accrued for individual patients or patient populations with a given diagnosis
Curriculum Mapping	●
Notes and Resources	● AAP. Advocacy. https://services.aap.org/en/advocacy/. Accessed 2021. ● AAP. Bright Futures: Promoting Lifelong Health for Families and Communities. https://brightfutures.aap.org/Bright%20Futures%20Documents/BF4_LifelongHealth.pdf. Accessed 2021. ● AAP. Practice Transformation. https://www.aap.org/en-us/professional-resources/practice-transformation/Pages/practice-transformation.aspx. Accessed 2021. ● ABP. Entrustable Professional Activities for General Pediatrics. https://www.abp.org/content/entrustable-professional-activities-general-pediatrics. Accessed 2021.

	● AHRQ. Measuring the Quality of Physician Care. https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html. Accessed 2021. ● Blankenburg R, Poitevien P, Gonzalez del Rey J, et al. Dismantling racism: Association of Pediatric Program Directors' commitment to action. *Acad Pediatr*. 2020;20(8):1051-1053. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7450251/. Accessed 2021. ● Centers for Disease Control Preventing. Preventing Adverse Childhood Experiences. https://www.cdc.gov/violenceprevention/aces/fastfact.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fviolenceprevention%2Facestudy%2Ffastfact.html. Accessed 2021. ● Choosing Wisely. American Academy of Pediatrics: Ten Things Physicians and Patients Should Question. https://www.choosingwisely.org/societies/american-academy-of-pediatrics/. Accessed 2021. ● CommonHeatlh ACTION. Leveraging the Social Determinants to Build a Culture of Health. https://healthequity.globalpolicysolutions.org/wp-content/uploads/2016/12/RWJF_SDOH_Final_Report-002.pdf. Accessed 2021. ● The Commonwealth Fund. Health System Data Center. http://datacenter.commonwealthfund.org/?_ga=2.110888517.1505146611.1495417431-1811932185.1495417431#ind=1/sc=1. Accessed 2021. ● DallaPiazza M, Padilla-Register M, Dwarakanath M, et al. Exploring racism and health: An intensive interactive session for medical students. MedEdPORTAL. 2018;14:10783. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6354798/pdf/mep-14-10783.pdf. Accessed 2021. ● Dzau VJ, McClellan MB, McGinnis JM, et al. Vital directions for health and health care: Priorities from a National Academy of Medicine initiative. *JAMA*. 2017;317(14):1461-1470. https://nam.edu/vital-directions-for-health-health-care-priorities-from-a-national-academy-of-medicine-initiative/. Accessed 2021. ● Johnson TJ. Intersection of bias, structural racism, and social determinants with health care inequities. *Pediatrics*. 2020;146(2):e2020003657. https://pediatrics.aappublications.org/content/146/2/e2020003657. Accessed 2021. ● MedEdPORTAL. Anti-Racism in Medicine Collection. https://www.mededportal.org/anti-racism. Accessed 2021. ● Metzl JM, Hansen H. Structural competency: theorizing a new medical engagement with stigma and inequality. *Soc Sci Med*. 2014;103:126-133. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4269606/. Accessed 2021.

	● Solutions for Patient Safety. Hospital Resources. https://www.solutionsforpatientsafety.org/for-hospitals/hospital-resources/. Accessed 2021. ● Trent M, Dooley DG, Dougé J. The impact of racism on child and adolescent health. Pediatrics. 2019;144(2):e20191765. https://pediatrics.aappublications.org/content/144/2/e20191765. 2021.

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice **Overall Intent:** To incorporate evidence and patient values into clinical practice	
Milestones	**Examples**
Level 1 *Demonstrates how to access and use available evidence*	● Accesses the hospital or university-based library website and uses appropriate resources to find the most recent multi-site study on neonatal fever
Level 2 *Articulates clinical questions necessary to guide evidence-based care*	● While caring for a febrile neonate, recognizes that attending physicians have differing diagnostic and management approaches regarding herpes simplex virus; using PICO (Patient-Intervention, Control, and Outcome) questioning format, performs a literature search and reviews the studies with the attending
Level 3 *Locates and applies the best available evidence, integrating it with the patient's preferences*	● While caring for a neonate with fever, guides a resident through the institutional practice algorithm/guidelines for neonatal fever and points out and discusses the results of the most important citations; reviews the need for a lumbar puncture with the patient's parents and addresses their concerns about performing so many tests on their baby
Level 4 *Critically appraises and applies evidence, even when conflicting or in the face of uncertainty, tailored to the individual patient*	● Compares patient populations, evaluation methodologies, and results of the relevant studies when a visiting resident asks why this institution uses a different clinical decision rule for febrile neonates than the resident's home institution in another country; identifies relative strengths and potential threats to validity for each study
Level 5 *Coaches others to critically appraise and apply evidence and/or participates in the development of evidence-based guidelines*	● Contributes significantly to the work of an emergency department (or departmental/institutional) multi-disciplinary team that develops an evidence-based guideline for the management of neonatal fever ● Leads or guides others in preparing to lead sessions focused on critical appraisal of recent literature using a structured approach
Assessment Models or Tools	● Direct observation ● Presentation evaluation ● Teaching evaluations ● Journal Club ● Faculty evaluations
Curriculum Mapping	●
Notes or Resources	● Guyatt G, Rennie D, Meade MO, Cook DJ. *Users' Guide to the Medical Literature*. McGraw Hill; 2014. ISBN:978-0071790710.

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth **Overall Intent:** To seek clinical performance information with the intent to improve care; reflects on all domains of practice, personal interactions, and behaviors, and their impact on colleagues and patients (reflective mindfulness); develop clear objectives and goals for improvement in some form of a learning plan	
Milestones	**Examples**
Level 1 *Demonstrates an openness to performance data* *With guidance, identifies limitations in knowledge and skill, and factors contributing to gaps in clinical practice*	● When discussing goals for a shift, identifies areas in need of improvement and sets appropriate learning goals ● Asks and accepts constructive feedback from the attending physician
Level 2 *Uses performance data to develop individual professional goals* *Independently self-monitors to identify limitations and factors contributing to gaps in clinical practice*	● After receiving a metric report that places fellow in the bottom quartile for patient length of stay, discusses possible causes with mentors and begins to implement suggested changes ● While completing individual learning plan, identifies problematic issues related to time management during shifts and its adverse impact on timely completion of patient notes
Level 3 *Intentionally seeks performance data to develop individual professional goals* *With guidance, engages in help-seeking or corrective behaviors during clinical practice*	● Recognizes that lengths of stay for patients with abdominal pain are longer than average and independently develops an improvement plan ● Discusses uncertainty of what is the most evidence-based, consistent diagnostic approach for pediatric patients with undifferentiated abdominal pain and develops a learning plan of key studies to review
Level 4 *Uses performance data to reassess and continually improve towards one's goals* *Independently institutes real-time help-seeking and corrective behaviors in challenging clinical situations*	● Upon reviewing performance data on length-of-stay metrics, recognizes that all metrics have been met during times of low patient volume and develops strategies to maintain performance during times of high patient volume ● After the parent of a patient requests that the attending orthopedic doctor be called because their child needs surgery for their broken arm, huddles with attending, nursing leadership and other key healthcare team members to discuss communication strategies and together address the parent's concerns
Level 5 *Role models and coaches use of performance data for goal setting and behavior change*	● Develops a learning module to show peers how to access and improve upon their length-of-stay data using provider dashboards

Coaches others on reflective practice	● When a resident describes a parent as “difficult and a poor historian,” explores the resident’s experience during the patient encounter and discusses reframing strategies the resident can use in their ongoing communications with this parent and in future patient interactions
Assessment Models or Tools	● Direct observation ● Individualized learning plan ● Scholarly Oversight Committee reviews
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. Entrustable Professional Activities for Subspecialties. https://www.abp.org/content/entrustable-professional-activities-subspecialties. Accessed 2021. ● Burke AE, Benson B, Englander R, Carraccio C, Hicks PJ. Domain of competence: Practice-based learning and improvement. Acad Pediatr. 2014;14(2 Suppl):S38-S54. https://www.academicpedsjnl.net/article/S1876-2859(13)00333-1/fulltext. Accessed 2021. ● Hojat M, Veloski JJ, Gonnella JS. Measurement and correlates of physicians' lifelong learning. *Acad Med*. 2009;84(8):1066-74. https://insights.ovid.com/crossref?an=00001888-200908000-00021. Accessed 2021. ● Lockspeiser TM, Schmitter PA, Lane JL, Hanson JL, Rosenberg AA, Park YS. Assessing residents’ written learning goals and goal writing skill: Validity evidence for the learning goal scoring rubric. Acad Med. 2013;88(10):1558-1563. https://insights.ovid.com/article/00001888-201310000-00039. Accessed 2021.

Professionalism 1: Professional Behavior **Overall Intent:** To demonstrate ethical and professional behaviors and promote these behaviors in others and to use appropriate resources to manage professional dilemmas	
Milestones	**Examples**
Level 1 *Identifies expected professional behaviors and potential triggers for lapses* *Identifies the value and role of pediatric emergency medicine as a vocation/career*	● Recognizes that one's typically cordial communication with colleagues may be affected by stress and fatigue ● Acknowledges the role of the pediatric emergency medicine physician in medication safety awareness and childhood poisonings
Level 2 *Demonstrates professional behavior with occasional lapses* *Demonstrates accountability for patient care as a pediatric emergency physician, with guidance*	● Is consistently on time for morning huddle; apologizes to colleagues when tardy ● When paged after leaving because a prescription wasn't sent to the patient's pharmacy, takes responsibility for calling the family and sends an electronic prescription
Level 3 *Maintains professional behavior in increasingly complex or stressful situations* *Fully engages in patient care and holds oneself accountable*	● Despite a difficult and demanding nightshift, continues to demonstrate caring and compassionate behaviors with patients, families, colleagues, and staff members ● Upon discharging a complex patient from the emergency department, ensures visiting home services and follow-up appointments are in place, and communicates these with family members
Level 4 *Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in oneself and others* *Exhibits a sense of duty to patient care and professional responsibilities*	● After a particularly difficult resuscitation, leads a team debrief and takes responsibility for lapses in care, allowing for others to share accountability ● Without prompting, assists colleagues with seeing patients when the emergency department is busy ● Speaks up in the moment when observing discriminatory behavior within the health care team and uses reporting mechanisms to address it
Level 5 *Models professional behavior and coaches others* *Extends the role of the pediatric emergency physician beyond the care of patients by engaging with the community, specialty, and medical profession as a whole*	● Meets with a resident who has recurring tardiness to uncover contributing factors, support the learner, and make an improvement plan together ● Leads a lobby/advocacy group to encourage safer button battery marketing and packaging ● Develops education and/or modules on microaggressions and bias
Assessment Models or Tools	● Direct observation ● Global evaluation

	● Multisource feedback ● Oral or written self-reflection ● Simulation
Curriculum Mapping	●
Notes or Resources	● AbdelHameid D. Professionalism 101 for Black physicians. *N Engl J Med.* 2020;383(5):e34. https://www.nejm.org/doi/full/10.1056/NEJMpv2022773. Accessed 2021. ● American Academy of Pediatrics. Resident Curriculum. https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Mental-Health/Pages/Residency-Curriculum.aspx. Accessed 2021. ● ABIM Foundation. American Board of Internal Medicine. Medical professionalism in the new millennium: A physician charter. *Annals of Internal Medicine*. 2002;136(3):243-246. https://annals.org/aim/fullarticle/474090/medical-professionalism-new-millennium-physician-charter. Accessed 2021. ● ABP. Entrustable Professional Activities for General Pediatrics. https://www.abp.org/content/entrustable-professional-activities-general-pediatrics. Accessed 2021. ● ABP. Medical Professionalism. https://www.abp.org/content/medical-professionalism. Accessed 2021. ● ABP. Teaching, Promoting, and Assessing Professionalism Across the Continuum: A Medical Educator's Guide. https://www.abp.org/professionalism-guide. Accessed 2021. ● Bynny RL, Paauw DS, Papadakis MA, Pfeil S. *Medical Professionalism Best Practices: Professionalism in the Modern Era*. Aurora, CO: Alpha Omega Alpha Medical Society; 2017. *Medical Professionalism Best Practices: Professionalism in the Modern Era*. Aurora, CO: Alpha Omega Alpha Medical Society; 2017. http://alphaomegaalpha.org/pdfs/Monograph2018.pdf. Accessed 2021. ● Domen RE, Johnson K, Conran RM, et al. Professionalism in pathology: A case-based approach as a potential education tool. *Arch Pathol Lab Med.* 2017;141(2):215-219. https://meridian.allenpress.com/aplm/article/141/2/215/132523/Professionalism-in-Pathology-A-Case-Based-Approach. Accessed 2021. ● Levinson W, Ginsburg S, Hafferty FW, Lucey CR. *Understanding Medical Professionalism*. 1st ed. New York, NY: McGraw-Hill Education; 2014. ISBN:978-0071807432. ● Osseo-Asare A, Balasuriya L, Huot SJ, et al. Minority resident physicians' views on the role of race/ethnicity in their training experiences in the workplace. *JAMA Network Open*. 2018;1(5):e182723. https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2703945. Accessed 2021.

	● Paul DW Jr, Knight KR, Campbell A, Aronson L. Beyond a moment - reckoning with our history and embracing antiracism in medicine. *N Engl J Med*. 2020;383:1404-1406. https://www.nejm.org/doi/full/10.1056/NEJMp2021812. Accessed 2021.

Professionalism 2: Ethical Principles **Overall Intent:** To recognize and address or resolve common and complex ethical dilemmas or situations	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of the ethical principles underlying patient care*	● Identifies and applies ethical principles involved in informed consent for invasive procedures performed in the emergency department
Level 2 *Analyzes simple situations using ethical principles*	● Articulates how the principle of "do no harm" applies to a patient who may not need a lumbar puncture even though it could provide a learning opportunity
Level 3 *Analyzes complex situations using ethical principles to address conflict/controversy; seeks help when needed to manage and resolve complex ethical situations*	● Offers treatment options for a terminally ill patient, minimizing bias, while recognizing own limitations, and consistently honoring the patient's and family's choice
Level 4 *Manages and resolves ethical dilemmas using resources, as appropriate*	● Appropriately uses ethics resources to discuss "do not resuscitate" (DNR)/"do not intubate" (DNI) of a child with complex medical history and poor prognosis who presents to the emergency department in cardiac or respiratory arrest ● Uses institutional resources, including social work and risk management, when a parent chooses to leave the hospital against medical advice ● Reviews state laws on statutory rape as it pertains to a 14-year-old having sex with a 16-year-old and discusses case with attending physician or adolescent medicine provider ● Engages with a multidisciplinary team to address issues when families and physicians disagree on care plan for a patient in the emergency department with terminal illness ● Recognizes that prior experiences of racism for the patient and family influence their medical trust and defers discussion of the most complex issues to those in whom the family have demonstrated trust, rather than assuming a hierarchical structure
Level 5 *Identifies and addresses system-level factors that either induce or exacerbate ethical problems or impede their resolution*	● Actively participates in system-based practice evaluations that pertain to ethical issues and follows up with the ethics consult service regarding suggestions for resolutions
Assessment Models or Tools	● Direct observation ● Global evaluation ● Multisource feedback ● Oral or written self-reflection ● Simulation
Curriculum Mapping	●
Notes or Resources	● ABP. Entrustable Professional Activities for General Pediatrics. https://www.abp.org/content/entrustable-professional-activities-general-pediatrics. Accessed 2021.

	● American Medical Association. Ethics. https://www.ama-assn.org/delivering-care/ama-code-medical-ethics. Accessed 2021.

Professionalism 3: Accountability/Conscientiousness **Overall Intent:** To take responsibility for one's own actions and the impact on patients and other members of the health care team	
Milestones	**Examples**
Level 1 *In routine situations, performs tasks and responsibilities with appropriate attention to detail* *Responds promptly to requests and reminders to complete tasks and responsibilities*	● Completes work hour logs by specified due date ● Arrives to conferences on time ● Completes end-of-rotation evaluations after reminders
Level 2 *In routine situations, performs tasks and responsibilities in a timely manner with appropriate attention to detail* *Takes responsibility for failure to complete tasks and responsibilities*	● Completes administrative tasks, documents, safety modules, procedure review, and licensing requirements by specified due date ● Responds promptly to messages from program administrator to complete delinquent charts
Level 3 *In complex or stressful situations, performs tasks and responsibilities in a timely manner with appropriate attention to detail* *Recognizes situations that might impact one's ability to complete tasks and responsibilities in a timely manner, and describes strategies for ensuring timely task completion in the future*	● Completes timely charts in high volume, high acuity situations ● Notifies attending when clinical workload exceeds their capability ● In preparation for being away from the hospital, ensures chart completion and other program responsibilities
Level 4 *Recognizes situations that might impact others' ability to complete tasks and responsibilities* *Proactively implements strategies to ensure that the needs of patients, teams, and systems are met*	● Assists resident with documentation of lower acuity patient encounters while the resident completes the chart of a patient suffering cardiac arrest ● Organizes a pre-shift huddle with staff members and physicians to set team goals for the shift to ensure all needs are met
Level 5 *Contributes to developing systems that enhance others' ability to efficiently complete patient care tasks and responsibilities*	● Sets up a meeting with the nurse manager to streamline patient disposition plans ● Leads team to find solutions to the problems
Assessment Models or Tools	● Compliance with deadlines and timelines ● Direct observation ● Global evaluations

	● Multisource feedback ● Self-evaluations and reflective tools ● Simulation
Curriculum Mapping	●
Notes or Resources	● ACEP. Code of Ethics for Emergency Physicians. https://www.acep.org/patient-care/policy-statements/code-of-ethics-for-emergency-physicians/. Accessed 2021. ● Code of conduct from fellow/resident institutional manual ● Expectations of residency program regarding accountability and professionalism

Professionalism 4: Well-Being **Overall Intent:** To identify resources to prevent burnout and improve well-being	
Milestones	**Examples**
Level 1 *Recognizes the importance of addressing burnout and well-being*	● Acknowledges that burnout and physician well-being influence personal health and patient care
Level 2 *Lists available resources to prevent burnout and promote well-being*	● Identifies both institutional (e.g., adequate staffing, ancillary service support, scheduling practices, scribes, autonomy, diverse/inclusive environments) and personal (e.g., mental health referrals, exercise/meditation/mindfulness programs) resources for burnout prevention and well-being
Level 3 *Develops and advocates for a personal plan for burnout prevention and promotion of well-being*	● Identifies and meets regularly with a mentor ● Participates in critical incident debriefings for group support ● Uses resources like a meditation app to promote personal well-being
Level 4 *Contributes to programmatic interventions for burnout prevention and promotion of well-being*	● Participates in efforts to engage scribes in the pediatric emergency department ● Delivers workshops for co-fellows to address microaggressions ● Works with program director to improve scheduling practices
Level 5 *Contributes to departmental or institutional interventions for burnout prevention and promotion of well-being*	● Leads critical incident debriefings for group support ● Spearheads efforts to engage scribes in the pediatric emergency department ● Establishes a mindfulness program open to all employees
Assessment Models or Tools	● Direct observation ● Group interview or discussions for team activities ● Individual interview ● Institutional online training modules ● Self-assessment and personal learning plan
Curriculum Mapping	●
Notes or Resources	● 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. ● ACGME. Physician Well-Being Tools and Resources. https://dl.acgme.org/pages/well-being-tools-resources. Accessed 2022. ● AAMC. Transition to Residency. https://news.aamc.org/video/transition-residency/. Accessed 2021. ● AAMC. Well-Being in Academic Medicine. https://www.aamc.org/initiatives/462280/well-being-academic-medicine.html. Accessed 2021.

	● ABP. Entrustable Professional Activities for General Pediatrics. https://www.abp.org/content/entrustable-professional-activities-general-pediatrics. Accessed 2021. ● AMA. About STEPS Forward. https://edhub.ama-assn.org/steps-forward/pages/about. Accessed 2021. ● Chaukos D, Chad-Friedman E, Mehta DH, et al. SMART-R: A prospective cohort study of a resilience curriculum for residents by residents. *Acad Psychiatry*. 2018;42(1):78-83. https://link.springer.com/article/10.1007%2Fs40596-017-0808-z. Accessed 2021. ● Hicks PJ, Schumacher D, Guralnick S, Carraccio C, Burke AE. Domain of competence: Personal and professional development. *Acad Pediatr*. 2014;14(2 Suppl):S80-97. https://www.sciencedirect.com/science/article/abs/pii/S187628591300332X. Accessed 2021. ● Local resources, including Employee Assistance ● NAM. Action Collaborative on Clinician Well-Being and Resilience. https://nam.edu/initiatives/clinician-resilience-and-well-being/. Accessed 2021. ● Wilson PM, Kemper KJ, Shubert CJ, et al. National landscape of interventions to improve pediatric resident wellness and reduce burnout. *Acad Peds*. 2017;17(8):P801-804. https://www.academicpedsjnl.net/article/S1876-2859(17)30492-8/fulltext. Accessed 2021.

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication **Overall Intent:** To establish a therapeutic relationship with patients and families, tailor communication to the needs of patients and families, and effectively navigate difficult/sensitive conversations	
Milestones	**Examples**
Level 1 *Demonstrates respect and attempts to establish rapport*	● Introduces self and faculty member, identifies patient and others in the room, and engages all parties in health care discussion ● Attempts to initiate sensitive conversations
Attempts to adjust communication strategies based on the patient's/patient's family's expectations	● Identifies need for trained interpreter with non-English-speaking patients
Level 2 *Establishes a therapeutic relationship in straightforward encounters*	● Prioritizes and sets an agenda based on concerns of parents at the beginning of an encounter with a child with an acute or chronic medical problem ● Discusses sensitive topics in a nonjudgmental manner ● Uses correct pronouns when addressing patient
Adjusts communication strategies as needed to mitigate barriers and meet the patient's/patient's family's expectations	● When seeing a distraught teenager with genital herpes, ensures the patient understands that the outbreak will be self-limited but acknowledges uncertainty of future outbreaks and discusses risks/benefits of prophylactic medication ● Uses an interpreter for family members/caretakers even when the patient speaks English
Level 3 *Establishes therapeutic relationship in most encounters, with cultural humility*	● Establishes a therapeutic alliance with the caretakers of a child with multiple chronic medical problems to prioritize and set an agenda for that visit based on concerns of parents ● Upon noting patterned marks on a child's back, displays understanding that this may be a result of cupping or coining therapy and discusses further with family instead of initiating child protective services evaluation ● Recognizes that mispronouncing a patient's name, especially one of a different ethnicity, can constitute a microaggression; the fellow apologizes to the patient and seeks to correct the mistake
Communicates with sensitivity and compassion, elicits the patient's/patient's family's values and acknowledges uncertainty and conflict	● Discusses resources and options with a teenage patient presenting with an unwanted pregnancy in a manner that supports the patient and avoids bias in presentation of options ● While acknowledging gender identification, appropriately addresses the need for pelvic and/or bimanual exam in a transgender male with uterus/ovaries

Level 4 *Establishes a therapeutic relationship in straightforward and complex encounters, including those with ambiguity and/or conflict* *Uses shared decision-making with the patient/patient's family to make a personalized care plan*	● Continues to engage parents who refuse immunizations, addressing misinformation and reviewing risks/benefits to assuage these concerns in a manner that engages rather than alienates the family ● Asks questions in ways that validates how a patient identifies and promotes an inclusive environment ● Facilitates sensitive discussions with patient/family and interdisciplinary team ● While maintaining trust, engages family of a child with medical complexity along with other members of the multidisciplinary care team in determining family wishes and expectations regarding resuscitative efforts in the event of an acute deterioration
Level 5 *Mentors others to develop positive therapeutic relationships* *Models and coaches others in patient- and family-centered communication*	● Acts as a mentor for more junior learners disclosing bad news to a patient and their family, giving feedback and recommendations for improvement ● Develops a curriculum on patient- and family-centered communication, including navigating difficult conversations
Assessment Models or Tools	● Direct observation ● OSCE ● Standardized patients
Curriculum Mapping	●
Notes or Resources	● AAMC: MedEdPortal. Anti-racism in Medicine Collection. https://www.mededportal.org/anti-racism. Accessed 2021. ● ABP. Entrustable Professional Activities for General Pediatrics. https://www.abp.org/content/entrustable-professional-activities-general-pediatrics. Accessed 2021. ● Benson BJ. Domain of competence: Interpersonal and communication skills. *Acad Ped*. 2014;14(2 Suppl):S55-S65. https://www.academicpedsjnl.net/article/S1876-2859(13)00331-8/fulltext. Accessed 2021. ● Laidlaw A, Hart J. Communication skills: An essential component of medical curricula. Part I: Assessment of clinical communication: AMEE Guide No. 51. *Med Teach*. 2011;33(1):6-8. https://www.tandfonline.com/doi/full/10.3109/0142159X.2011.531170. Accessed 2021. ● National LGBTQIA+ Health and Education Center. https://www.lgbtqiahealtheducation.org/. Accessed 2021. ● Symons AB, Swanson A, McGuigan D, Orrange S, Akl EA. A tool for self-assessment of communications skills and professionalism in residents. *BMC Medical Education*. 2009;9(1). https://bmcmededuc.biomedcentral.com/articles/10.1186/1472-6920-9-1. Accessed 2021.

Interpersonal and Communication Skills 2: Interprofessional and Team Communication **Overall Intent:** To effectively communicate with the health care team, including consultants, in both straightforward and complex situations	
Milestones	**Examples**
Level 1 *Addresses consultants and other members of the health care team professionally*	● When speaking to a consultant, introduces self and is polite
Receives feedback in an open manner	● Acknowledges the contributions of each member of the emergency department team to the patient ● Acknowledges areas in need of improvement communicated to them by members of the health care team ● Acknowledges feedback in a non-defensive manner
Level 2 *Communicates effectively with consultants and members of the health care team*	● Communicates patient information to the consultant concisely and clearly identifies what is being requested from the service ● Shares consultant recommendations with all members of the health care team
Solicits feedback on performance	● Asks for feedback from the supervising physicians or nursing staff members regarding performance after a patient care encounter
Level 3 *Solicits and integrates recommendations made by members of the health care team to optimize patient care*	● After an orthopedic consultation has been completed, collaborates with the emergency department care team to arrange for procedural sedation including intravenous (IV) access, staffing availability, and materials needed
Communicates concerns and provides feedback to peers and learners	● Suggests areas for improvement to team members and includes multiple resources for performance enhancement
Level 4 *Demonstrates flexible communication strategies, and resolves conflict when needed*	● Mediates conflict and difficult dialogue when multiple practitioners are collaborating on care for a multi-system trauma patient with a closed head injury, pneumothorax, and vascular injury
Facilitates interprofessional team communication	● Uses closed-loop communication during the management of cardiac arrest by confirming epinephrine doses with administering nurse ● Informs the emergency department director and/or nurse manager about obstacles to patient flow and suggests ways to overcome the issues
Level 5 *Acts as a role model and coach for communication skills necessary to lead or manage health care teams*	● Creates and leads an interest group in health care management ● Organizes and leads a multidisciplinary meeting to organize an optimal care plan for an emergency department high-volume user
Assessment Models or Tools	● Direct observation ● Global assessment

	● Medical record (chart) audit ● Multisource feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● Braddock CH, Edwards KA, Hasenberg NM, Laidley TL, Levinson W. Informed decision making in outpatient practice: Time to get back to basics. *JAMA.* 1999;282(24):2313-2320. https://pubmed.ncbi.nlm.nih.gov/10612318/. Accessed 2021. ● Dehon E, Simpson K, Fowler D, Jones A. Development of the faculty 360. *MedEdPORTAL*. 2015;11:10174 http://doi.org/10.15766/mep_2374-8265.10174. Accessed 2021. ● Fay D, Mazzone M, Douglas L, Ambuel B. A validated, behavior-based evaluation instrument for family medicine residents. *MedEdPORTAL.* https://www.mededportal.org/doi/10.15766/mep_2374-8265.622. Accessed 2021. ● François, J. Tool to assess the quality of consultation and referral request letters in family medicine. *Can Fam Physician*. 2011;57(5), 574–575. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093595/. Accessed 2021. ● Green M, Parrott T, Cook G. Improving your communication skills. *BMJ*. 2012;344. https://www.bmj.com/content/344/bmj.e357. Accessed 2021. ● Henry SG, Holmboe ES, Frankel RM. Evidence-based competencies for improving communication skills in graduate medical education: A review with suggestions for implementation. *Med Teach*. 2013;35(5):395-403. https://pubmed.ncbi.nlm.nih.gov/23444891/. Accessed 2021. ● Lane JL, Gottlieb RP. Structured clinical observations: A method to teach clinical skills with limited time and financial resources. *Pediatrics*. 2000;105(4 Pt 2):973-977. https://pubmed.ncbi.nlm.nih.gov/10742358/. Accessed 2021. ● Roth CG, Eldin KW, Padmanabhan V, Freidman EM. Twelve tips for the introduction of emotional intelligence in medical education. *Med Teach*. 2019;41(7):746-749. https://pubmed.ncbi.nlm.nih.gov/30032720/. Accessed 2021.

Interpersonal and Communication Skills 3: Communication within Health Care Systems **Overall Intent:** To effectively communicate using a variety of tools and methods	
Milestones	**Examples**
Level 1 *Records accurate information in the patient record in a timely manner* *Identifies the importance of, and responds to, multiple forms of communication*	● Completes notes before leaving the hospital ● If using copy and paste/forward, reviews and edits notes for accuracy ● Uses Health Information Portability and Accountability Act (HIPAA)-compliant electronic mail, EHR messaging, and verbal communication for patient care needs, concerns, and safety issues
Level 2 *Documents and updates patient information in an accurate and organized fashion* *Selects appropriate methods of communication, with prompting*	● Provides organized and accurate documentation that supports the updated treatment plan and limits extraneous information ● Avoids biased or stigmatizing language in notes ● Places computer order and speaks with nurse with urgent request for labs after attending physician reminds them
Level 3 *Concisely documents updated and prioritized, diagnostic and therapeutic reasoning in the patient record* *Selects appropriate methods of communication independently*	● Documentation reflects straightforward, concise medical decision making ● When a patient begins to decompensate, immediately requests additional resources and contacts the attending physician ● Messages patient's cardiologist with non-urgent question rather than paging cardiologist on call
Level 4 *Concisely documents updated and prioritized, diagnostic and therapeutic reasoning in the patient record, including providing anticipatory guidance* *Demonstrates exemplary communication*	● Documentation reflects thoughtful decision making in patients with complex medical issues and frequently incorporates contingency planning ● Identifies communications gaps and collaborates effectively with teams to prevent recurrence
Level 5 *Models and coaches others in completing appropriate documentation* *Models and coaches others in communication skills*	● Coaches less experienced learners and gives feedback for improvement in documentation strategies ● Leads teams by modeling a range of effective tools and methods of communication in a broad variety of clinical encounters

	● Designs and facilitates the improvement of systems that integrates effective communication among teams, departments, and institutions ● Leads a team to discuss implementation and dissemination of correct pronouns/names into EHR
Assessment Models or Tools	● Direct observation ● Medical record (chart) audit ● Multisource feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● ABP. Entrustable Professional Activities for General Pediatrics. https://www.abp.org/content/entrustable-professional-activities-general-pediatrics. Accessed 2021. ● Benson BJ. Domain of competence: Interpersonal and communication skills. *Acad Ped*. 2014;14(2 Suppl):S55-S65. https://www.acgme.org/Portals/0/PDFs/Milestones/InterpersonalandCommunicationSkillsPediatrics.pdf. Accessed 2021. ● Bierman JA, Hufmeyer KK, Liss DT, Weaver AC, Heiman HL. Promoting responsible electronic documentation: Validity evidence for a checklist to assess progress notes in the electronic health record. *Teach Learn Med.* 2017;29(4):420-432. https://www.tandfonline.com/doi/full/10.1080/10401334.2017.1303385. Accessed 2021. ● Haig KM, Sutton S, Whittington J. SBAR: A shared mental model for improving communication between clinicians. *Jt Comm J Qual Patient Saf*. 2006;32(3)167-175. https://www.ncbi.nlm.nih.gov/pubmed/16617948. Accessed 2021. ● Starmer AJ, Spector ND, Srivastava R, et al. I-PASS, a mnemonic to standardize verbal handoffs. *Pediatrics*. 2012;129(2):201-204. https://ipassinstitute.com/wp-content/uploads/2016/06/I-PASS-mnemonic.pdf. Accessed 2021.

To help programs transition to the new version of the Milestones, the ACGME has mapped the original Milestones 1.0 to the new Milestones 2.0. Indicated below are where the subcompetencies are similar between versions. These are not exact matches but are areas that include similar elements. Not all subcompetencies map between versions. Inclusion or exclusion of any subcompetency does not change the educational value or impact on curriculum or assessment.

Milestones 1.0	Milestones 2.0
PC1: Gather essential and accurate information about the patient: Abstracts current findings in a patient with multiple chronic medical problems and, when appropriate, compares with a prior medical record and identifies significant differences between the current presentation and past presentations	PC1: Performance of Focused History and Physical Exam MK2: Clinical Reasoning
PC2: Organize and prioritize responsibilities to provide patient care that is safe, effective, and efficient	PC2: Organize and Prioritize Patients
PC3: Provide transfer of care that ensures seamless transitions	SBP3: System Navigation for Patient-Centered Care
PC4: Make informed diagnostic and therapeutic decisions that result in optimal clinical judgment	PC3: Differential Diagnosis PC5: Patient Management MK2: Clinical Reasoning
PC5: Emergency Stabilization: Prioritizes critical initial stabilization action and mobilizes hospital support services in the resuscitation of a critically-ill or injured patient and reassesses after stabilizing intervention	PC6: Emergency Stabilization
PC6: Diagnostic Studies: Applies the results of diagnostic testing based on the probability of disease and the likelihood of test results altering management	PC4: Diagnostic Studies
PC7: Observation and Reassessment: Re-evaluates patients undergoing emergency department (ED) observation (and monitoring) and, using appropriate data and resources, determines the differential diagnosis and, treatment plan, and disposition	PC7: Reassessment and Disposition
PC8: Disposition: Establishes and implements a comprehensive disposition plan that uses appropriate consultation resources; provides patient education	PC7: Reassessment and Disposition

regarding diagnosis; treatment plan; medications; and time- and location-specific disposition instructions	
PC9: General Approach to Procedures: Performs the indicated procedure on all appropriate patients (including those who are uncooperative, at the extremes of age, or hemodynamically unstable, and those who have multiple co-morbidities, poorly defined anatomy, high risk for pain or procedural complications, or sedation requirements), takes steps to avoid potential complications, and recognizes the outcome and/or complications resulting from the procedure	PC8: General Approach to Procedures
PC10: Anesthesia and Acute Pain Management: Provides safe acute pain management, anesthesia, and procedural sedation to patients of all ages regardless of the clinical situation	PC5: Patient Management PC8: General Approach to Procedures
PC11: Provide appropriate supervision (milestones for the supervisor)	PC9: Provide Appropriate Supervision
MK1: Demonstrate sufficient knowledge of the basic and clinically supportive sciences appropriate to pediatric emergency medicine	MK1: Scientific Knowledge/Clinical Knowledge
SBP1: Advocate for quality patient care and optimal patient care systems	SBP2: Quality Improvement SBP4: Physician Role in Health Care Systems
SBP2: Participate in identifying system errors and implementing potential systems solutions	SBP1: Patient Safety SBP2: Quality Improvement
PBLI1: Use information technology to optimize learning and care delivery	ICS3: Communication within Health Care Systems
No match	PBLI1: Evidence-Based and Informed Practice PBLI2: Reflective Practice and Commitment to Personal Growth
PROF1: Self-awareness of one's own knowledge, skill, and emotional limitations that leads to appropriate help-seeking behaviors	PROF4: Well-Being
PROF2: The capacity to accept that ambiguity is part of clinical medicine and to recognize the need for and to utilize appropriate resources in dealing with uncertainty	PROF2: Ethical Principles
PROF3: Practice flexibility and maturity in adjusting to change with the capacity to alter behavior	PROF4: Well-Being

PROF4: Provide leadership skills that enhance team functioning, the learning environment, and/or the health care delivery system/environment with the ultimate intent of improving care of patients	PROF1: Professional Behavior PROF3: Accountability/ Conscientiousness
PROF5: Demonstrate self-confidence that puts patients, families, and members of the health care team at ease	No match
ICS1: Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds	ICS1: Patient and Family-Centered Communication
ICS2: Demonstrate the insight and understanding into emotion and human response to emotion that allows one to appropriately develop and manage human interactions	ICS1: Patient and Family-Centered Communication
ICS3: Act in a consultative role to other physicians and health professionals	ICS2: Interprofessional and Team Communication

Available Milestones Resources

Milestones 2.0: Assessment, Implementation, and Clinical Competency Committees Supplement, new 2021 - https://meridian.allenpress.com/jgme/issue/13/2s

Clinical Competency Committee Guidebook, updated 2020 - https://www.acgme.org/Portals/0/ACGMEClinicalCompetencyCommitteeGuidebook.pdf?ver=2020-04-16-121941-380

Clinical Competency Committee Guidebook Executive Summaries, new 2020 - https://www.acgme.org/What-We-Do/Accreditation/Milestones/Resources - Guidebooks - Clinical Competency Committee Guidebook Executive Summaries

Milestones Guidebook, updated 2020 - https://www.acgme.org/Portals/0/MilestonesGuidebook.pdf?ver=2020-06-11-100958-330

Milestones Guidebook for Residents and Fellows, updated 2020 - https://www.acgme.org/Portals/0/PDFs/Milestones/MilestonesGuidebookforResidentsFellows.pdf?ver=2020-05-08-150234-750

Milestones for Residents and Fellows PowerPoint, new 2020 -https://www.acgme.org/Residents-and-Fellows/The-ACGME-for-Residents-and-Fellows

Milestones for Residents and Fellows Flyer, new 2020 https://www.acgme.org/Portals/0/PDFs/Milestones/ResidentFlyer.pdf

Implementation Guidebook, new 2020 - https://www.acgme.org/Portals/0/Milestones%20Implementation%202020.pdf?ver=2020-05-20-152402-013

Assessment Guidebook, new 2020 - https://www.acgme.org/Portals/0/PDFs/Milestones/Guidebooks/AssessmentGuidebook.pdf?ver=2020-11-18-155141-527

Milestones National Report, updated each Fall - https://www.acgme.org/Portals/0/PDFs/Milestones/2019MilestonesNationalReportFinal.pdf?ver=2019-09-30-110837-587 (2019)

Milestones Bibliography, updated twice each year - https://www.acgme.org/Portals/0/PDFs/Milestones/MilestonesBibliography.pdf?ver=2020-08-19-153536-447

Developing Faculty Competencies in Assessment courses - https://www.acgme.org/Meetings-and-Educational-Activities/Other-Educational-Activities/Courses-and-Workshops/Developing-Faculty-Competencies-in-Assessment

Assessment Tool: Direct Observation of Clinical Care (DOCC) - https://dl.acgme.org/pages/assessment

Assessment Tool: Teamwork Effectiveness Assessment Module **(TEAM) -** https://dl.acgme.org/pages/assessment

Learn at ACGME has several courses on Assessment and Milestones - https://dl.acgme.org/