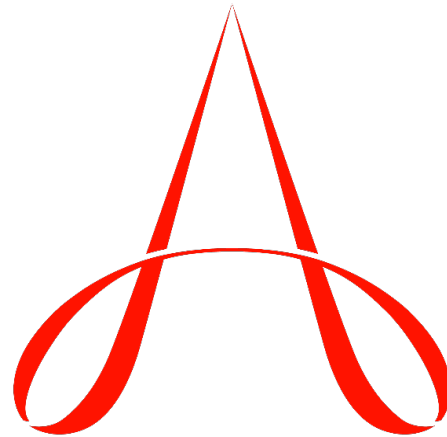




Supplemental Guide: Pediatric Rehabilitation Medicine



A C G M E

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Milestones Supplemental Guide

This document provides additional guidance and examples for the Pediatric Rehabilitation 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: History for Pediatric Rehabilitation Patients	
Overall Intent: To obtain a thorough and appropriate history, focusing on function and relevant psychosocial context; to ultimately optimize patient outcomes	
Milestones	Examples
Level 1 <i>Acquires and presents a basic pediatric physiatric history, including medical, functional, and psychosocial elements</i>	While assessing a patient with developmental delay, elicits a history of prematurity with intraventricular hemorrhage and left-sided weakness, delays in gross motor milestones including delayed independent sitting at two years old; in addition to birth history, elicits that there is no other relevant past medical or surgical history
Level 2 <i>Acquires and presents a comprehensive pediatric physiatric history identifying all components of functioning, including development, impairments, activities, participation, and contextual factors</i>	While assessing a 10 year old with spastic diplegic cerebral palsy, assesses function in activities at school and at home, inquires about functional challenges that may impact participation in various settings, and assesses detailed review of symptoms to capture impairments including visual, hearing, cognitive, swallowing, and mental health
Level 3 <i>Acquires and presents a relevant pediatric physiatric history in a prioritized fashion, integrating components of functioning within the context of development</i>	- During the assessment of a 16-year-old football player presenting with a mild traumatic brain injury, elicits relevant history of prior injuries, prior mental health or cognitive disorders, sport-specific activities including current training regimen, and other factors that may impact recovery (e.g., sleep disorders, current stressors) - During the presentation of the history of a patient with prolonged hospitalization, includes pertinent medical complications with direct impact on rehabilitation
Level 4 <i>Elicits and presents key pediatric physiatric history, including subtleties, in a prioritized and efficient fashion across a spectrum of ages and impairments</i>	When an 18-month-old patient presents with language delays, elicits a history including concerns for hearing acuity and birth history significant for cytomegalovirus (CMV), inquires about prior work-up including imaging, laboratory studies, and consultations with other specialists, and reviews speech therapy notes to assess progress and goals
Level 5 <i>Role models the effective gathering and presentation of subtle and salient pediatric physiatric history from patients across a spectrum of ages and impairments</i>	- Effectively presents to the medical student class on how to take a pediatric physiatric history - Role models the presentation of a salient pediatric physiatric history for the multidisciplinary team
Assessment Models or Tools	- Direct observation - Medical record (Chart) review - Multisource feedback - Objective structured clinical examination (OSCE) - Resident observation and competency assessment - Simulation
Curriculum Mapping	
Notes or Resources	Textbooks

Patient Care 2: Physical Examination for Pediatric Rehabilitation Patients	
Overall Intent: To efficiently perform a hypothesis-driven physiatric examination that identifies subtle or atypical findings over a spectrum of ages and impairments	
Milestones	Examples
Level 1 <i>Performs and presents a basic pediatric physiatric examination</i>	Identifies impairments with age-appropriate functional use of upper and lower extremities for a toddler presenting with frequent falls
Level 2 <i>Performs and presents a comprehensive, developmentally appropriate pediatric physiatric examination</i>	Engages a 5-year-old patient to assess intermittent toe-walking, completes a musculoskeletal (e.g., spine and lower extremities) and neurological (e.g., strength, tone, reflexes) exam, and assesses for other developmental impairments including speech and fine motor skills
Level 3 <i>Performs and presents a hypothesis-driven pediatric physiatric examination, with identification of subtle or atypical findings over a spectrum of ages and impairments</i>	When a 10-year-old patient with a C6 American Spinal Injury Association Impairment Scale (AIS) A spinal cord injury presents with fever, diaphoresis, and headache, identifies a sacral pressure ulcer as the etiology of these symptoms
Level 4 <i>Efficiently performs and presents a hypothesis-driven pediatric physiatric examination, with identification of subtle or atypical findings over a spectrum of ages and impairments</i>	- While assessing a 16-year-old patient with a traumatic brain injury, assesses for accompanying injuries (e.g., long bone fractures, sixth cranial nerve (CN 6) palsy) or behavioral changes, performs appropriate initial exam to assess for post-traumatic amnesia, tests motor strength, balance, coordination, gait, etc., and performs serial exams to monitor ongoing neurocognitive recovery - Performs the Hammersmith infant neurological examination
Level 5 <i>Role models a hypothesis-driven pediatric physiatric examination that identifies subtle or atypical findings over a spectrum of ages and impairments</i>	- Effectively presents to the medical student class what maneuvers to perform during the pediatric physiatric examination based on the differential diagnosis - Leads a workshop on neuromusculoskeletal examination of children
Assessment Models or Tools	- Direct observation - Medical record (Chart) review - Multisource feedback - OSCE - Resident observation and competency assessment - Simulation
Curriculum Mapping	
Notes or Resources	- Conferences and workshops - Physiatric examination is defined as examination to guide the rehabilitation management

Patient Care 3: Differential Diagnosis of Pediatric Rehabilitation Medicine Patients Overall Intent: To consistently develop a complete and prioritized differential diagnosis that leads to efficient and appropriate diagnostic testing and treatment	
Milestones	Examples
Level 1 <i>Produces a basic differential diagnosis for common pediatric physiatric disorders and associated conditions</i>	• Presents a basic differential diagnosis for delayed milestones and toe walking with basic considerations include idiopathic toe walking, autism, cerebral palsy
Level 2 <i>Generates a comprehensive differential diagnosis that includes pediatric physiatric disorders and associated conditions</i>	• For the example in Level 1: Expands the differential diagnosis to include peripheral nerve disorders, neuromuscular disorders, spinal dysraphism
Level 3 <i>Develops a focused, age-appropriate differential diagnosis, including pediatric medical conditions and less common conditions</i>	• Identifies Rett Syndrome in a young girl with toe walking, autistic features, and developmental regression
Level 4 <i>Produces a prioritized differential diagnosis across a spectrum of ages and impairments</i>	• Differentiates the cause of cavus foot deformity based on age of presentation
Level 5 <i>Efficiently produces a focused and prioritized differential diagnosis accounting for rare conditions</i>	• With normal serum studies and brain imaging, identifies rare or less commonly known diagnoses in the differential for hypotonia such as metabolic and genetic disorders
Assessment Models or Tools	• Case-based assessment • Direct observation • Medical record (Chart) review • Multisource feedback • OSCE • Resident observation and competency assessment • Simulation
Curriculum Mapping	•
Notes or Resources	• Evidence-based/consensus guidelines • Systematic reviews • Textbooks

Patient Care 4: Diagnostic Evaluation of Pediatric Rehabilitation Medicine Patients Overall Intent: To efficiently prioritize and interpret diagnostic testing and assessment measurements to optimize patient management	
Milestones	Examples
Level 1 <i>Orders appropriate diagnostic studies for conditions commonly seen in pediatric physiatry (e.g., dysplastic hip), based on established guidelines or consensus</i>	• Orders urologic assessment and urodynamic studies in an infant with spina bifida
Level 2 <i>Orders comprehensive, hypothesis-driven diagnostic studies for conditions commonly seen in pediatric physiatry</i> <i>Identifies common pediatric assessment tools and outcome measures</i>	• Orders endocrine labs based on suspicion of hypothalamus-pituitary-adrenal axis disorder in traumatic brain injury • Assigns appropriate gross motor function classification system level for a patient with cerebral palsy
Level 3 <i>Appropriately prioritizes the sequence and urgency of diagnostic testing, and begins to interpret results to guide further management</i> <i>Uses appropriate outcome measures and scales for diagnoses</i>	• In a spinal cord patient with new on set urinary incontinence, orders urinalysis to evaluate for urinary tract infection, then progresses to bladder studies • In a patient with a traumatic brain injury, appropriately identifies and uses Glasgow Coma Scale, Post Traumatic Amnesia, Childhood Orientation and Amnesia Tool
Level 4 <i>Orders diagnostic testing and assessment tools based on cost effectiveness and likelihood that results will influence clinical management (e.g., gait analysis)</i> <i>Integrates knowledge of functional goals, results of pediatric assessment tools, and prognosis to optimize patient management</i>	• Orders electromyography to prioritize which genetic tests to order in Charcot-Marie-Tooth disease • Uses evidence-based assessment tools (e.g., On track, Toronto Scale) to provide anticipatory guidance to families regarding function potential
Level 5 <i>Streamlines testing for cost effectiveness and minimal patient and family burden</i> <i>Serves as a resource to others for the implementation of assessment tools and outcome measures</i>	• Spearheads the implementation of validated assessment tools for clinical use
Assessment Models or Tools	• Case-based assessment • Direct observation

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	• Medical record (Chart) review • Multisource feedback • OSCE • Resident observation and competency assessment • Simulation
Curriculum Mapping	•
Notes or Resources	• Evidence-based/consensus guidelines • Systematic reviews • Textbooks

Patient Care 5: Medical Management of Pediatric Rehabilitation Medicine Patients	
Overall Intent: To develop and implement a comprehensive treatment plan that anticipates, identifies, and addresses potential complications related to neurological and musculoskeletal disorders over a spectrum of ages, conditions, and settings	
Milestones	Examples
Level 1 <i>Identifies and manages general medical conditions and their complications</i>	Identifies neurogenic bladder as a significant medical issue for a child with spinal cord dysfunction on the inpatient rehabilitation service, and orders strict monitoring of intake and output, a scheduled urinary catheterization program, and requests a urology consultation to assist with longitudinal management and considers developmental age in the goal setting for urinary continence
Level 2 <i>Identifies and manages complications related to complex medical, neurological, and musculoskeletal disorders</i>	Identifies an evolving ankle plantarflexion contracture in a child with cerebral palsy who comes to the outpatient clinic for a follow-up one year from previous assessment, and institutes a treatment program to improve range of motion and compensate for leg length discrepancy
Level 3 <i>Develops and implements a comprehensive evidence-based treatment plan that anticipates and addresses complications related to medical, neurological, and musculoskeletal disorders</i>	Identifies and manages stroke-related impairments in pediatric and young adult patients, and implements preventative measures to minimize secondary complications
Level 4 <i>Develops a treatment plan that anticipates and addresses complications across the spectrum of ages (e.g., complications that occur in adulthood from a childhood onset condition)</i>	Assesses an outpatient who has a transtibial amputation, documents detailed and appropriate management of the residual limb to promote healing and prevent skin breakdown and provide education about functional expectation and long-term potential complications in residual limb including bony growth and leg length inequality
Level 5 <i>Role models the development and implementation of a comprehensive treatment plan, including consideration of emerging treatments</i>	Educates a patient's family and/or caregivers in well-established and emerging options for management of the motor deficits related to a diagnosis of spinal muscular atrophy
Assessment Models or Tools	- Case-based assessment - Direct observation - Medical record (Chart) review - Multisource feedback - OSCE - Resident observation and competency assessment - Simulation
Curriculum Mapping	
Notes or Resources	Clinical guidelines

• Textbooks

Patient Care 6: Rehabilitation/Functional Management of Pediatric Rehabilitation Medicine Patients – Assistive Devices and Technologies	
Overall Intent: To generate a detailed prescription, in consultation with other professionals, for a full range of assistive devices and technologies, including justification and advocacy, taking into consideration the assessment of impairments, barriers, contraindications and comorbidities, and patient goals	
Milestones	Examples
Level 1 <i>Evaluates patient need for common assistive devices and technologies based on impairment</i>	Explains the general indications for a walker in a child with cerebral palsy
Level 2 <i>Evaluates patient need for a full range of assistive devices and technologies based on impairments, accounting for barriers, contraindications, comorbidities, issues related to growth and development, and input from other professionals</i>	- Explains the specific indications for a gait trainer, walker, or forearm crutches in the gait progression of a child with cerebral palsy - Demonstrates ability to evaluate patient readiness for power mobility - Justifies need for specific ankle-foot orthosis to address crouch gait, jump gait, dorsiflexion weakness, or spastic equinus
Level 3 <i>Generates a detailed prescription, in consultation with other professionals, for a full range of assistive devices and technologies, including justification and advocacy where needed</i>	- Responds to a physical therapist's concern about a patient's ability to safely navigate within his home and community due to cognitive impairment and difficulty with motor coordination; provides a detailed prescription for a gait trainer within the home and a manual wheelchair for the community - Provides a detailed prescription for assistive technologies for a patient with severe expressive aphasia and visual impairment in collaboration with a speech pathologist and advocates for use in the school setting
Level 4 <i>Serves as a resource to other professionals for clinical problem solving and functional challenges related to assistive devices and technologies</i>	For a young athlete with a transfemoral amputation, presents to the multidisciplinary prosthetic clinic for a prosthesis with componentry that will allow her to continue to participate in her sport; in collaboration with the multidisciplinary team, generates a detailed prescription and documents the medical justification and advocates for the patient when the payor initially denies the prosthesis
Level 5 <i>Involved in research/development of novel assistive devices or technologies</i>	Is involved in research looking at novel computer interface(s) or integration of motion capture video games as a therapeutic tool
Assessment Models or Tools	- Case-based assessment - Direct observation - Medical record (Chart) review - Multisource feedback - OSCE - Resident observation and competency assessment - Simulation

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Curriculum Mapping	•
Notes or Resources	• Prosthetics and orthotics courses • Textbooks

Patient Care 7: Rehabilitation/Functional Management of Pediatric Rehabilitation Medicine Patients – Rehabilitation Interventions Overall Intent: To generate a detailed prescription for a full range of therapy interventions, taking into consideration the patient's impairments, developmental stage, condition-specific goals and precautions, response to previous therapy interventions, and patient and family goals	
Milestones	Examples
Level 1 Prescribes common rehabilitation therapies for children based on impairments	• Prescribes physical therapy for a child with a gait impairment and lower extremity weakness
Level 2 Prescribes common rehabilitation therapies accounting for developmental needs and understanding expected goals	• Prescribes physical therapy for a nine-month-old child with lower extremity weakness to work on crawling, sitting independently, and accepting weightbearing in preparation for gait training
Level 3 Generates specific therapy prescriptions, targeting for condition-specific goals and precautions	• Prescribes physical therapy for an eight-year-old boy with Duchenne muscular dystrophy with recommendations to instruct in range of motion program targeting ankle plantarflexors, hamstrings, and hip flexors and avoidance of strengthening activities
Level 4 Monitors and adjusts the therapy interventions based on previous results and reassessment	• In an 18-month-old child with high lumbar myelomeningocele who has significant lower extremity weakness and has failed to progress in ambulation training in physical therapy, redirects therapist to focus on range of motion, use of standing frame, and obtainment of a mobility device
Level 5 Participates in research and development of novel therapy interventions	• Participates in a research study evaluating the impact of physical therapy interventions on prognosis for ambulation in children with spina bifida
Assessment Models or Tools	• Case-based assessment • Direct observation • Medical record (Chart) review • Multisource feedback • OSCE • Resident observation and competency assessment • Simulation
Curriculum Mapping	•
Notes or Resources	• Evidence-based / consensus guidelines • Textbooks

Patient Care 8: Procedural Skills in Pediatric Rehabilitation Medicine Overall Intent: To ensure knowledge of and the ability to perform or appropriately refer for the full range of procedures that are available to treat childhood hypertonia	
Milestones	Examples
Level 1 <i>Demonstrates basic understanding of indications for various spasticity procedures in pediatric patients</i> <i>Performs procedures with hands-on assistance</i>	Explains the indications for chemodenervation and intrathecal baclofen therapy
Level 2 <i>Provides basic education to patients and families regarding procedure-specific information and treatment options and obtains informed consent</i> <i>Performs procedures with verbal guidance</i>	Educates patients and families that the effects of chemodenervation agents are localized and temporary, that there is a risk for systemic spread, and explains expected benefits including onset and duration of effects
Level 3 <i>Selects spasticity procedures based on individual condition; provides in-depth education to patients and families regarding procedure-specific information and treatment options</i> <i>Modifies procedures to accommodate patient's impairments and minimize discomfort; consistently performs procedures without attending direction</i>	- Educates patients and families on the mechanism of action of chemodenervation agents, specific adverse effects associated with systemic spread, and adjunctive therapies to maximize treatment effects; identifies appropriate muscles and dose/concentration for chemodenervation agents - For a chemodenervation procedure, considers which patients might require sedation
Level 4 <i>Troubleshoots spasticity interventions that are ineffective or when complications arise</i> <i>Skillfully performs a wide variety of procedures and teaches others in the safe performance of these procedures</i>	Effectively evaluates lack of efficacy of chemodenervation agents by considering suboptimal adjunctive therapies, or antibody formation, and potential benefits of alternative toxin types or localization techniques
Level 5 <i>Effectively uses spasticity procedures in complex clinical scenarios</i> <i>Develops a curriculum</i>	Determines a suitable treatment plan in a patient where there is not one clear optimal hypertonia treatment due to lack of response to previous treatments, risk of systemic spread, difficulty predicting functional gains, or potential for poor adherence to adjunctive therapies
Assessment Models or Tools	- Case-based assessment - Direct observation - Medical record (Chart) review

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	• Multisource feedback • OSCE • Resident observation and competency assessment • Simulation
Curriculum Mapping	•
Notes or Resources	• Evidence-based/consensus guidelines • Textbooks

Medical Knowledge 1: Physiatric Knowledge Overall Intent: To integrate foundational knowledge into physiatric practice across a spectrum of ages, impairments, and clinical settings	
Milestones	Examples
Level 1 <i>Demonstrates basic knowledge of complex pediatric medical conditions and basic preventive care</i>	• Knows appropriate vital signs for age • Calculates bladder volume using Burger's equation • Applies weight-based dosing
Level 2 <i>Synthesizes physiatric knowledge of common pediatric rehabilitation disorders, secondary conditions, treatment options, and complications</i>	• Understands expected age-related changes of the musculoskeletal system • Provides age-appropriate bowel/bladder management for a patient with a spinal cord injury
Level 3 <i>Synthesizes physiatric knowledge of complex pediatric rehabilitation disorders, secondary conditions, treatment options, and complications</i>	• Recognizes osteopenia as a secondary complication of immobility in children with cerebral palsy • Recognizes the risk of subsequent development of scoliosis with growth after cervical spinal cord injury in a prepubescent child
Level 4 <i>Integrates physiatric knowledge into practice across a spectrum of ages, impairments, educational and clinical scenarios</i>	• Identifies the potential need for transition to a power wheelchair in anticipation of an adolescent patient navigating a college campus
Level 5 <i>Serves as a resource for others for new and emerging concepts and investigation relevant to foundational principles of physiatric practice</i>	• Writes a clinical review on stem cell treatment after brain injury • Presents results of research project at a scientific meeting
Assessment Models or Tools	• Case-based assessment • Direct observation • Resident observation and competency assessment • Simulation
Curriculum Mapping	•
Notes or Resources	• Guidelines • Journals • Online materials/modules • Textbooks

Medical Knowledge 2: Growth and Development Overall Intent: To understand and apply knowledge about development and growth throughout childhood and adolescence and the potential impact impairments in these areas have on functional capabilities	
Milestones	Examples
Level 1 <i>Demonstrates knowledge of basic growth and developmental milestones</i>	• Demonstrates the ability to assess developmental milestones using an age-appropriate, evidence-based screening tool
Level 2 <i>Recognizes atypical growth or development (e.g., recognition of persistent primitive reflexes)</i> <i>Demonstrates knowledge of anatomy and physiology related to growth (e.g., bladder volume, skeletal immaturity, pubertal maturation)</i>	• Recognizes developmental red flags in gross motor, fine motor, speech-language, cognitive and social-emotional domains and institutes therapy interventions/referrals to address • Calculates an appropriate fluid intake goal and bladder volume maximum for a child with spinal cord injury who is starting a clean intermittent urinary catheterization program
Level 3 <i>Recognizes influence of development and impairment level on current functional capabilities</i> <i>Applies knowledge of pathophysiology to the growth and development of a child (e.g., precocious puberty in brain disorders, hip dysplasia with cerebral palsy)</i>	• Assesses cognitive and fine motor skills of a child with myelomeningocele to determine their readiness for self-catheterization • Identifies that a patient with cerebral palsy may have precocious puberty
Level 4 <i>Applies knowledge of developmental trajectory to provide a functional prognosis</i> <i>Synthesizes the knowledge of anatomy and physiology in the context of prevention and treatment (e.g., use of practice guidelines for osteopenia and hip dysplasia in cerebral palsy)</i>	• Uses knowledge of developmental milestones and age at acquisition for a child with cerebral palsy to provide anticipatory guidance and realistic rehabilitation expectations for parents and therapists • Demonstrates use of evidence-based hip surveillance guidelines in cerebral palsy and effectively counsels parents on likelihood of need for surgical intervention
Level 5 <i>Collaborates on the development of practice guidelines or educational resources for clinicians in the area of growth and development</i>	• Establishes a hip surveillance screening program in their health system or community for children with spastic cerebral palsy based upon international evidence-based hip surveillance guidelines
Assessment Models or Tools	• Case-based assessment • Direct observation • Resident observation and competency assessment • Simulation

Curriculum Mapping	•
Notes or Resources	• Guidelines • Journals • Online materials/modules • Textbooks

Systems-Based Practice 1: Patient Safety in Pediatric Rehabilitation Overall Intent: To engage in the analysis, management, and prevention of patient safety events, including relevant communication with patients, families, and health care professionals	
Milestones	Examples
Level 1 <i>Demonstrates knowledge of common patient safety events</i> <i>Demonstrates knowledge of how to report patient safety events</i>	Has basic knowledge of the potential for a medication error and how to report an error if it occurs
Level 2 <i>Identifies system factors that lead to patient safety events</i> <i>Reports patient safety events through institutional reporting systems (simulated or actual)</i>	Identifies and reports a medication error, along with system factors contributing to that issue
Level 3 <i>Participates in analysis of patient safety events (simulated or actual)</i> <i>Participates in disclosure of patient safety events to patients and families (simulated or actual)</i>	- Prepares for morbidity and mortality presentations, joining a root cause analysis group - Reviews a patient safety event and communicates with patient/family members
Level 4 <i>Conducts analysis of patient safety events and offers error-prevention strategies (simulated or actual)</i> <i>Discloses patient safety events to patients and families (simulated or actual)</i>	Collaborates with a team to lead the analysis of a patient safety event and can competently communicate with patients/families about those events
Level 5 <i>Actively engages teams and processes to modify systems to prevent patient safety events</i> <i>Role models or mentors others in the disclosure of patient safety events</i>	Competently assumes an active role at the departmental or institutional level for patient safety initiatives, possibly even being the person to initiate action or call attention to the need for action
Assessment Models or Tools	- Chart or other system documentation by fellow - Direct observation - Documentation of QI or patient safety project processes or outcomes - E-module multiple choice tests

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	• Multisource feedback • Portfolio • Simulation
Curriculum Mapping	•
Notes or Resources	• Institute of Healthcare Improvement. http://www.ihl.org/Pages/default.aspx. 2021.

Systems-Based Practice 2: Quality Improvement (QI) in Pediatric Rehabilitation Overall Intent: To develop an understanding of QI principles and engage in QI activities	
Milestones	Examples
Level 1 <i>Demonstrates knowledge of basic quality improvement methodologies and metrics</i>	• Has basic knowledge of QI principles and strategies, but has not yet participated in such activities
Level 2 <i>Describes quality improvement initiatives</i>	• Is aware of improvement initiatives within their scope of practice
Level 3 <i>Participates in quality improvement initiatives</i>	• Participates in a QI activity to improve patient hand-offs
Level 4 <i>Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project</i>	• Initiates a QI project with the use of a standardized template for hand-offs and analyzes the results
Level 5 <i>Creates, implements, and assesses quality improvement initiatives at the institutional or community level</i>	• Competently assumes an active role at the departmental or institutional level for continuous QI initiatives, possibly even being the person to initiate action or call attention to the need for action
Assessment Models or Tools	• Chart or other system documentation by fellow • Direct observation • Documentation of QI or patient safety project processes or outcomes • E-module multiple choice tests • Multisource feedback • Portfolio • Simulation
Curriculum Mapping	•
Notes or Resources	• American Academy of Physical Medicine and Rehabilitation. QI Guidelines Resource https://www.aapmr.org/quality-practice/evidence-based-medicine/clinical-practice-guidelines/guideline-resources. 2021. • ABPMR QI Guidelines Resource • Institute of Healthcare Improvement. http://www.ihl.org/Pages/default.aspx. 2021.

Systems-Based Practice 3: System Navigation for Patient-Centered Care Overall Intent: To effectively navigate the health care system, including the interdisciplinary team and other care providers, to adapt care to a specific patient population to ensure high-quality patient outcomes	
Milestones	Examples
Level 1 <i>Demonstrates understanding and knowledge of care coordination</i> <i>Identifies key elements for safe and effective transitions of care and hand-offs</i> <i>Demonstrates knowledge of population and community health needs and disparities</i>	- Identifies the members of the interprofessional/interdisciplinary team, including other specialty physicians, nurses, consultants, social workers, case managers, and therapists, and describes their roles, but is not yet routinely using team members or accessing all available resources - Lists the essential components of an effective sign-out and care transition including sharing information necessary for successful on-call/off-call transitions - Identifies components of social determinants of health and how they impact the delivery of patient care
Level 2 <i>Coordinates care of patients in routine clinical situations effectively using the roles of the interprofessional team members</i> <i>Performs safe and effective transitions of care/hand-offs in routine clinical situations</i> <i>Identifies specific population and community health needs and inequities for the local population</i>	- Coordinates with interprofessional team members for routine cases, but requires supervision to ensure all necessary referrals and testing are made - Performs a routine case sign-out but still needs direct supervision to identify and appropriately triage cases or calls (priority versus non-priority case or call) and anticipatory guidance - Knows which patients are at high risk for specific health outcomes related to health literacy concerns, cost of testing or therapy, socioeconomic status, religion, culture, and family support
Level 3 <i>Coordinates care of patients in complex clinical situations effectively collaborating with members of the interprofessional teams</i> <i>Performs safe and effective transitions of care/hand-offs in complex clinical situations</i> <i>Uses local resources effectively to meet the needs of the local population and community to minimize health care inequities</i>	- Develops a comprehensive treatment plan in coordination with consultants from other medical specialties, therapies, etc. - Coordinates a complex discharge from an acute inpatient rehabilitation with home health agency, pharmacy, acute care team and primary care physician - Identifies a discount pharmacy card that can be used at the local pharmacy

Level 4 <i>Role models effective coordination of patient-centered care among different professions and specialties</i> <i>Role models and advocates for safe and effective transitions of care/hand-offs within and across different levels of health care and settings</i> <i>Participates in changing and adapting practice to provide equitable accessible and quality care for specific populations</i>	• Role models and educates students and junior team members regarding the engagement of appropriate interprofessional team members, as needed for each patient and/or case, and ensures the necessary resources have been arranged • Models efficient hand-off to the rehab team, and coordinates and prioritizes consultant input for a specific diagnosis to ensure the patient gets appropriate follow-up • Identifies patient populations at high risk for poor health care outcomes due to health disparities and inequities, and implements strategies to improve care
Level 5 <i>Analyzes the process of care coordination and leads in the design and implementation of improvements</i> <i>Leads quality improvement of transitions of care within and across different levels of health care and settings to optimize patient outcomes</i> <i>Leads innovations and advocacy in partnership with populations and communities experiencing health care inequities to make sustainable improvements</i>	• Works with hospital or ambulatory site team members or leadership to analyze care coordination in that setting, and takes a leadership role in designing and implementing changes to improve the care coordination • Develops a validated tool to improve safe and effective transitions of care • Designs a social determinants of health curriculum to help others learn to identify local resources and barriers to care
Assessment Models or Tools	• Case management quality metrics and goals mined from electronic health records (EHR) • Direct observation • Medical record (Chart) review • Multisource feedback • OSCE • Review of sign-out tools, use and review of checklist
Curriculum Mapping	•
Notes or Resources	• Centers for Disease Control (CDC). Population Health Training in Place Program (PH-TIPP). https://www.cdc.gov/pophealthtraining/whatis.html. 2021. • Skochelak SE, Hawkins RE, Lawson LE, Starr SR, Borkan J, Gonzalo JD. <i>Health Systems Science</i>. 1st ed. Philadelphia, PA: Elsevier; 2016.

Systems-Based Practice 4: Physician Role in Health Care Systems Overall Intent: To understand the physician's role in the complex health care system and how to optimize the system to improve patient care and the health system's performance	
Milestones	Examples
Level 1 <i>Identifies key components of the health care system, including the various venues for post-acute care</i> <i>Describes basic health payment systems (e.g., government, private, public, uninsured care) and practice models</i> <i>Identifies basic knowledge domains for effective transition to practice (e.g., information technology, legal, billing and coding, financial, personnel)</i>	• Identifies that post-acute care includes acute inpatient rehabilitation facilities, skilled nursing facilities, long-term acute care hospitals • Names systems and providers involved in test ordering and payment • Recognizes that Medicare, Medicaid, and commercial third-party payors are different payment systems
Level 2 <i>Describes how components of a health care system are interrelated, and how this impacts patient care</i> <i>Identifies care plan that is compatible with each patient's payment model (e.g., insurance type) and obstacles for delivery</i> <i>Demonstrates use of information technology required for medical practice (e.g., electronic health record, documentation required for billing and coding)</i>	• Understands how improving patient satisfaction improves patient adherence and remuneration to the health system; is not yet able to consistently think through clinical redesign to improve quality; does not yet modify personal practice to enhance outcomes • Applies knowledge of health plan features, including formularies and network requirements in patient care situations • Uses hospital EHR to write notes that meet basic requirements for billing
Level 3 <i>Discusses how individual practice affects the broader system (e.g., length of stay, readmission rates, clinical efficiency)</i> <i>Engages with patients and families in shared decision making, informed by each patient's payment models</i>	• Understands that extended length of stay impacts the ability of other patients to have an inpatient bed and increases costs • Uses shared decision making and adapts the choice of the most cost-effective testing depending on the relevant clinical needs

<i>Describes core administrative knowledge needed for transition to practice (e.g., contract negotiations, malpractice insurance, government regulation, compliance)</i>	• Knows that there are state laws requiring malpractice insurance
Level 4 <i>Navigates the various components of the health care system to provide efficient and effective patient care and transition of care</i> <i>Advocates for patient care needs (e.g., community resources, patient assistance resources) with consideration of the limitations of each patient's payment model</i> <i>Analyzes individual practice patterns and professional requirements in preparation for independent practice</i>	• Works collaboratively with other services to identify patient assistance resources • Advocates for a customized wheelchair to prevent downstream costs and complications • Recognizes the need in practice to set aside time for “New Patient” slots in a busy clinical practice setting
Level 5 <i>Advocates for or leads systems change that enhances high-value, efficient and effective patient care and transition of care</i> <i>Participates in health policy advocacy activities</i> <i>Educates others to prepare them for transition to practice</i>	• Works with community or professional organizations to advocate for no smoking ordinances • Develops processes to decrease opioid prescribing for one or more clinical services • Discusses personal experiences in setting up a private practice with the other residents
Assessment Models or Tools	• Medical record (Chart) review • Direct observation • Multisource feedback • Patient satisfaction data
Curriculum Mapping	•
Notes or Resources	• Agency for Healthcare Research and Quality (AHRQ). Measuring the Quality of Physician Care. https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html. 2021. • AHRQ. Major Physician Performance Sets. https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/measurementsets.html. 2021. • Dzau VJ, McClellan M, Burke S, et al. Vital directions for health and health care: priorities form a national academy of medicine initiative. <i>JAMA</i>. 2017;317(14):1461-1470.

<https://nam.edu/vital-directions-for-health-health-care-priorities-from-a-national-academy-of-medicine-initiative/>. 2021.

- The Kaiser Family Foundation. Health Reform. <https://www.kff.org/topic/health-reform/>. 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 <i>Demonstrates how to access available evidence</i>	Identifies the clinical problem and obtains the appropriate evidence-based guideline for the patient
Level 2 <i>Articulates clinical questions and elicits patient preferences and values to guide evidence-based care</i>	Asks the appropriate questions of the patient to elicit preferences for disease management/treatment based on the appropriate guideline
Level 3 <i>Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients</i>	Obtains and applies evidence in the care of complex patients when there is relative agreement in what the evidence suggests
Level 4 <i>Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient</i>	- Assesses the primary literature to address a unique patient when the evidence is unclear or emerging - Is aware of novel therapeutic techniques or new evidence that challenges current guidelines and demonstrates the ability to appropriately apply this information
Level 5 <i>Coaches others to critically appraise and apply evidence for complex patients, and/or participates in the development of guidelines</i>	Formally teaches others how to find and apply best practice or develops, independently or as a part of a team, thoughtful clinical guidelines
Assessment Models or Tools	- Case based assessment - Direct observation - Journal Club - Oral or written examination - Research portfolio
Curriculum Mapping	
Notes or Resources	- Institutional Review Board (IRB) guidelines - National Institutes of Health. Write Your Application. https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/write-your-application.htm. 2021. - U.S. National Library of Medicine. PubMed Tutorial. https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html. 2021. - Various journal submission guidelines

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Professional Growth Overall Intent: To seek clinical performance information with the intent to improve care; reflect on all domains of practice, personal interactions, and behaviors, and their impact on colleagues and patients, families and caregivers (reflective mindfulness); develop clear objectives and goals for improvement in a learning plan	
Milestones	Examples
Level 1 <i>Accepts responsibility for professional development</i> <i>Identifies and/or acknowledges gaps between expectations and actual performance</i> <i>Identifies opportunities to improve</i>	• Acknowledges need to improve • Identifies a lack of experience in caring for children with myelomeningocele as a knowledge gap • Attends grand rounds on an unfamiliar diagnosis
Level 2 <i>Demonstrates openness to verbal feedback and other performance data</i> <i>Analyzes and reflects on the factors which contribute to performance gaps</i> <i>Designs and implements a learning plan, with guidance</i>	• Summarizes feedback that's been received • Increasingly able to identify performance gaps in terms of diagnostic skills and daily work; uses feedback from others • Drafts goals for learning plan but needs to use mentor feedback for effective implementation
Level 3 <i>Seeks and incorporates verbal feedback and other performance data intermittently, in an open and reflective manner</i> <i>Institutes behavioral changes to narrow performance gaps</i> <i>Independently designs and implements a learning plan</i>	• Requests input from supervisors at semi-annual reviews to gain complex insight into personal strengths and areas to improve and is appreciative and not defensive • Takes a more active leadership role during team conference on the inpatient unit • Documents learning goals in a more specific and achievable manner, such that attaining them is reasonable and measurable
Level 4 <i>Seeks and incorporates verbal feedback and other performance data consistently, with humility and adaptability</i> <i>Uses data to measure the effectiveness of the learning plan to address performance gaps and modifies accordingly</i>	• Regularly requests input from peers/colleagues and supervisors during clinical rotations to gain complex insight into personal strengths and areas to improve • Uses multiple sources of data to evaluate the success of past learning plan and define next steps

Level 5 <i>Role models consistent incorporation of verbal feedback and other performance data</i> <i>Mentors others on reflective practice, including the design and implementation of learning plans</i>	• Encourages other learners on the team to consider how their behavior affects the rest of the team • Provides effective feedback for others regarding learning plans
Assessment Models or Tools	• Direct observation • Multisource feedback • Review of learning plan
Curriculum Mapping	•
Notes or Resources	• Hojat M, Veloski JJ, Gonnella JS. Measurement and correlates of physicians' lifelong learning. <i>Academic Medicine</i>. 2009;84(8):1066-1074. https://journals.lww.com/academicmedicine/fulltext/2009/08000/Measurement_and_Correlates_of_Physicians_Lifelong.21.aspx. 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. <i>Academic Medicine</i>. 2013;88(10):1558-1563. https://journals.lww.com/academicmedicine/fulltext/2013/10000/Assessing_Residents_Written_Learning_Goals_and.39.aspx. 2021.

Professionalism 1: Ethical Practice	
Overall Intent: To understand ethical principles, apply them in clinical practice, and use appropriate resources for managing ethical dilemmas	
Milestones	Examples
Level 1 <i>Approaches clinical care and educational duties with actions consistent with core ethical principles</i>	Discusses the basic principles underlying ethics (beneficence, nonmaleficence, justice, autonomy) and professionalism (professional values and commitments), and how they apply in various situations (informed consent process)
Level 2 <i>Demonstrates consistent application of ethical principles in routine clinical practice, such as informed consent, surrogate decision making, advance directives, confidentiality, error reporting and disclosure, and stewardship of limited resources</i>	- Uses ethical principles to analyze straightforward situations - When obtaining informed consent for a procedure, consistently gives patients the information necessary to make a decision (i.e., the scope and nature of potential risks and benefits of the procedure), and follows the patients' wishes - Acknowledges a medical error, and provides the patient an explanation of the error and its consequences without deception or non-disclosure
Level 3 <i>Recognizes tensions between conflicting ethical principles in complex situations and seeks appropriate guidance to help resolve ethical dilemmas</i>	- Analyzes conflicts (or perceived conflicts) between patients/providers/staff members or between professional values - Uses shared decision making and educates patients to improve compliance with recommended treatment, but respects the competent patient's or parent's right to refuse treatment, even if it is medically indicated
Level 4 <i>Manages ethical dilemmas, using appropriate resources as needed to facilitate resolution (e.g., ethics consultations, literature review, risk management/legal consultation)</i>	- Works with a genetic counselor to advise the parents of a patient for whom the fellow recommends whole exome sequencing - Appreciates the need to contact risk management if a medical error or lack of standard of care was discovered and resulted in possible patient harm
Level 5 <i>Serves as a resource for others to resolve complex ethical dilemmas</i>	- Identifies and seeks to address system-wide factors or barriers to promoting a culture of ethical practice through participation in a work group, committee, or task force - Serves as the fellow member of the institutional Ethics Committee
Assessment Models or Tools	- Direct observation - Multisource feedback - Oral or written self-reflection (e.g., of a personal or observed lapse, ethical dilemma, or systems-level factors) - Simulation
Curriculum Mapping	
Notes or Resources	- American Medical Association. Ethics. https://www.ama-assn.org/delivering-care/ama-code-medical-ethics. 2021. - Kirschner KL. Ethical-legal issues in psychiatrics. <i>PMR</i>. 2009;1(1):81. https://onlinelibrary.wiley.com/doi/full/10.1016/j.pmrj.2008.12.003. 2021.

Professionalism 2: Professional Behaviors	
Overall Intent: To recognize and address lapses in professional behavior, demonstrate professional behaviors, and use appropriate resources for minimizing potential professionalism lapses	
Milestones	Examples
Level 1 <i>Describes when and how to appropriately report lapses</i> <i>Identifies professionalism lapses in oneself and others</i>	• Aware of institutional mechanisms for reporting professionalism lapses and when to use them • Acknowledges when a professionalism lapse has occurred • Displays respect for patients and their family in routine situations
Level 2 <i>Demonstrates professional behavior in routine situations</i> <i>Takes responsibility for one's own professionalism lapses when applicable and identifies contributing factors</i>	• Recognizes the negative impact of colleagues' unprofessional behaviors such as delayed returning of pages, disrespectful communication, or refusal to see a consult • Acknowledges when a professionalism lapse has occurred without becoming defensive, making excuses, or blaming others • Apologizes for the lapse in professionalism
Level 3 <i>Anticipates situations that may trigger professionalism lapses</i> <i>Takes remedial action to address lapses when applicable</i>	• Recognizes that when fatigued or hungry, one is more apt to display short or disrespectful communication • Following an outburst at a nurse, completes a module on respectful communication and articulates strategies for preventing similar lapses in the future
Level 4 <i>Demonstrates professional behavior in all situations, including during times of stress</i> <i>Proactively intervenes to prevent lapses</i>	• Analyzes difficult real or hypothetical professionalism case scenarios or situations, recognizes own limitations, and consistently demonstrates professional behavior • Actively and consistently seeks to consider the perspectives of others to prevent lapses
Level 5 <i>Coaches others when their behavior fails to meet professional expectations</i> <i>Addresses system issues to minimize potential for professionalism lapses</i>	• Advises more junior resident who has demonstrated disrespectful behavior to clinical staff members on managing conflicts with other members of the health care team • Identifies and seeks to address system-wide factors or barriers to promoting a culture of professional behavior through participation in a work group, committee, or task force
Assessment Models or Tools	• Direct observation • Multisource feedback • Oral or written self-reflection (e.g., of a personal or observed lapse, ethical dilemma, or systems-level factors) • Simulation
Curriculum Mapping	•

Notes or Resources	• ABIM Foundation. American Board of Internal Medicine. Medical professionalism in the new millennium: a physician charter. <i>Annals of Internal Medicine</i>. 2002;136(3):243-246. https://annals.org/aim/fullarticle/474090/medical-professionalism-new-millennium-physician-charter. 2021. • ABPMR. https://www.abpmr.org/MOC/PartI/ProfessionalismDefinition. 2021. • Bynny RL, Paauw DS, Papadakis MA, Pfeil S, Alpha Omega Alpha. <i>Medical Professionalism Best Practices: Professionalism in the Modern Era</i>. Menlo Park, CA: Alpha Omega Alpha Honor Medical Society; 2017. http://alphaomegaalpha.org/pdfs/Monograph2018.pdf. 2021. • Levinson W, Ginsburg S, Hafferty FW, Lucey CR. <i>Understanding Medical Professionalism</i>. 1st ed. New York, NY: McGraw-Hill Education; 2014. https://accessmedicine.mhmedical.com/book.aspx?bookID=1058. 2021.
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Professionalism 3: Accountability	
Overall Intent: To take responsibility for one's own actions and the impact on patients and other members	
Milestones	Examples
Level 1 <i>Responds promptly to requests or reminders to complete responsibilities</i>	• Occasionally needs reminders from program administrator to complete case logs • At times requires prompting from attending to complete clinic notes in a timely manner • Completes evaluations of peers and attendings following a reminder from the program administrator
Level 2 <i>Performs tasks and responsibilities in a timely manner with appropriate attention to detail in routine situations</i>	• Completes case logs without prompting from program administrator • Completes appropriately detailed clinic notes on the day of service without prompting from attending • Completes patient hand-off to the on-call fellow at the pre-designated time • Submits required evaluations on time without requiring reminders
Level 3 <i>Performs tasks and responsibilities in a timely manner with appropriate attention to detail in complex or stressful situations</i>	• Completes all work on the inpatient rehabilitation service prior to leaving town to give a poster presentation at a conference • Effectively completes expected professional responsibilities in the setting of a high census, caring for high-acuity patients or managing challenging social situations • Ensures that the day service is appropriately informed of all events that happened during a busy night call to avoid patient safety issues or compromised care
Level 4 <i>Proactively implements strategies to ensure that the needs of persons, teams, and systems are met in a timely manner</i>	• Helps to arrange coverage for call when another fellow needs to take unexpected leave • Helps to improve the electronic hand-off document so that it is more efficient and ensures that important information is communicated • Works with the program director on a new process that promotes timely completion of faculty and rotation evaluations • Appropriately seeks help when clinical demands are too high for safe patient care
Level 5 <i>Coaches others to optimize timely task completion</i>	• Mentors a more junior fellow who is failing to complete professional tasks and responsibilities in a timely manner at the request of the program director • Creates and presents a lecture or seminar on strategies to promote timely completion of professional responsibilities at the request of the program director
Assessment Models or Tools	• Compliance with deadlines and timelines • Direct observation • Multisource feedback • Self-evaluations and reflective tools • Simulation
Curriculum Mapping	•
Notes or Resources	• Code of conduct from fellow/resident institutional manual

- Donnon T, Al Ansari A, Al Alawi S, Violato C. The reliability, validity, and feasibility of multisource feedback physician assessment: a systematic review. *Acad Med*. 2014;89(3):511-516.
https://journals.lww.com/academicmedicine/fulltext/2014/03000/The_Reliability,_Validity,_and_Feasibility_of.34.aspx. 2021.
- Expectations of residency program regarding accountability and professionalism
- Fornari A, Akbar S, Tyler S. Critical synthesis package: assessment of professional behaviors (APB). *MedEdPORTAL*. 2014;10:9902.
<https://www.mededportal.org/publication/9902>. 2021.
- Mueller PS. Incorporating professionalism into medical education: the Mayo Clinic experience. *Keio J Med*. 2009;58(3):133-143.
https://www.istage.ist.go.jp/article/kjm/58/3/58_3_133/article. 2021.
- Muueller PS. Teaching and assessing professionalism in medical learners and practicing physicians. *Rambam Maimonides Med J*. 2015;6(2):e0011.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4422450/>. 2021.
- Wilkinson TJ, Wade WB, Knock LD. A blueprint to assess professionalism: results of a systematic review. *Acad Med*. 2009;84(5):551-558.
https://journals.lww.com/academicmedicine/fulltext/2009/05000/A_Blueprint_to_Assess_Professionalism_Results_of.8.aspx. 2021.

Professionalism 4: Patient Care Etiquette with Patients of All Abilities Overall Intent: To attend to the comfort and dignity of all patients regardless of any impairment or disability	
Milestones	Examples
Level 1 <i>Recognizes the need to respect the dignity of all people regardless of impairments or disabilities</i>	• Talks directly to the patient not through their caregiver, companion, or interpreter
Level 2 <i>Demonstrates specific elements of verbal and physical communication that reflect respect for people with impairments or disabilities</i>	• Sits at the level of a wheelchair user for conversation • Treats the wheelchair as part of the user's personal space • Uses person-first language that emphasizes the individual person and not just the disability when referring to the patient ("a person with paraplegia", not "a paraplegic") • Adjusts pillows and blanket if needed after examination, and replaces the call button or wheelchair so it is accessible to the patient if moved during patient examination in bed • Makes the patient aware verbally before making physical contact with a patient with visual impairment
Level 3 <i>Proactively maintains pediatric patient's comfort and dignity during clinical encounters for those with mild impairments or disabilities</i>	• Prior to evaluating passive range of motion in a patient with spasticity, asks patient to indicate any discomfort during • Approaches a patient with a right visual field defect from the patient's left (good) side in order to not startle them
Level 4 <i>Proactively maintains pediatric patient's comfort and dignity during clinical encounters for those with severe impairments or disabilities</i>	• Facilitates turning a patient with dense hemiplegia during physical examination with ease without pulling on the weak arm, maintaining support of the weak arm at all times during the turn, and appropriately uses techniques such as bending the opposite knee or crossing the patient's ankles in the direction of the turn to facilitate the movement; controls any spasms provoked by the movement by exerting gentle pressure on the spastic limb
Level 5 <i>Serves as a role model and resource by coaching others in behaviors and actions that optimize the comfort, dignity, and respect of people with impairments or disabilities</i>	• Teaches a workshop on optimal techniques to examine patients with a variety of functional impairments and disabilities
Assessment Models or Tools	• Direct observation • Multisource feedback • Oral or written self-reflection • Simulation
Curriculum Mapping	•
Notes or Resources	• Sabharwal S. Assessment of competency in positioning and movement of physically disabled patients. <i>Acad Med.</i> 2000;75(5):525.

	https://journals.lww.com/academicmedicine/Fulltext/2000/05000/Assessment_of_Competency_in_Positioning_and.47.aspx. 2021. • Sabharwal S. Objective assessment and structured teaching of disability etiquette. <i>Acad Med</i>. 2001;76(5):509. https://journals.lww.com/academicmedicine/Fulltext/2001/05000/Objective_Assessment_and_Structured_Teaching_of.38.aspx#pdf-link. 2021. • United Spinal Association. <i>Disability Etiquette: Tips on Interacting with People with Disabilities</i>. New York, NY: United Spinal Association. https://www.unitedspinal.org/pdf/DisabilityEtiquette.pdf. 2021.
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Professionalism 5: Well-Being and Help-Seeking	
Overall Intent: To identify, use, manage, improve, and seek help for personal and professional well-being	
Milestones	Examples
Level 1 <i>Recognizes status of personal and professional well-being, with assistance</i>	Describes personal well-being during one-on-one meetings with program director when prompted
Level 2 <i>Independently recognizes status of personal and professional well-being and demonstrates appropriate help-seeking behaviors</i>	Understands how and when to access employee assistance program and fellow wellness program
Level 3 <i>With assistance, proposes, implements, and refines a plan to optimize personal and professional well-being</i>	- With supervision, assists in developing a personal action plan to address stress and burnout - With the help of the program director, creates a plan to optimize work efficiency
Level 4 <i>Independently develops, implements, and refines a plan to optimize personal and professional well-being</i>	Recognize that exercise is a stress reliever for self and implements a plan to exercise three times each week
Level 5 <i>Coaches others and addresses system barriers and facilitators to optimize personal and professional well-being</i>	Assists with the formation of fellow wellness programming
Assessment Models or Tools	- Direct observation - Group interview or discussions for team activities - 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. Rather, the intent is to ensure that each fellow has the fundamental knowledge of factors that impact well-being, the mechanism by which those factors impact well-being, and available resources and tools to improve well-being. - ACGME. "Well-Being Tools and Resources." https://dl.acgme.org/pages/well-being-tools-resources. 2021. - Busireddy KR, Miller JA, Ellison K, Ren V, Qayyum R, Panda M. Efficacy of interventions to reduce resident physician burnout: a systematic review. <i>Journal of Graduate Medical Education</i>. 2017;9(3):294-301. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5476377/pdf/i1949-8357-9-3-294.pdf. 2021. - Local resources, including Employee Assistance

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication Overall Intent: To effectively communicate with patients and caregivers; while working to minimize communication barriers and personal bias; to form a therapeutic relationship and allow for shared decision making	
Milestones	Examples
Level 1 <i>Uses language and non-verbal behavior to demonstrate respect and establish rapport</i> <i>Minimizes common barriers to effective communication (e.g., language, disability)</i> <i>Accurately communicates own role within the health care system</i>	• Self-monitors and controls tone, non-verbal responses, and language and asks questions to invite patient/family/caregiver participation • Identifies common communication barriers in patient care, avoids medical jargon, and uses interpretation services and picture boards, and ensures communication is at the appropriate reading level for the patient/family/caregiver
Level 2 <i>Establishes a therapeutic relationship in straightforward encounters using active listening and clear language</i> <i>Minimizes complex barriers to effective communication (e.g., health literacy, cultural differences), but has limited awareness of potential personal biases</i> <i>Organizes and initiates communication with the patient/patient's family by clarifying expectations and verifying understanding of the clinical situation</i>	• Establishes a professional relationship with patients/families/caregivers, with active listening, attention to affect, and questions that explore the optimal approach to daily tasks • With patient or family consent, consults pastoral services to facilitate communication between a patient and their family related to differing views of how religion impacts treatment • Effectively leads patient/family/caregiver goal meetings in straightforward cases, with attending guidance
Level 3 <i>Establishes a therapeutic relationship in challenging patient encounters</i> <i>When prompted, reflects on personal biases while attempting to minimize communication barriers</i> <i>With guidance, sensitively and compassionately delivers medical information, elicits patient/patient's family values, goals, and</i>	• Successfully establishes rapport with challenging patients • Maintains and repairs a therapeutic relationship through times of conflict • Reflects on implicit bias (i.e., impressions based upon chart review) that may contribute to the challenging aspects of patient encounters; provides information in a tailored way to meet the needs of patient/family/caregivers using written versus verbal communication, amount of information, and number of choices desired • Elicits what is most important to the patient/family/caregivers in end-of-life discussions, and acknowledges uncertainty in medical prognosis

<i>preferences, and acknowledges uncertainty and conflict</i>	
Level 4 <i>Easily establishes therapeutic relationships, with attention to patient/patient's family concerns and context, regardless of complexity</i> <i>Overcomes personal biases while proactively minimizing communication barriers</i> <i>Independently uses shared decision making to align patient/patient's family values, goals, and preferences with treatment options to make a personalized care plan</i>	• Earns the trust of the patient and family, addresses family preferences, and can compassionately explain that the family's preferences may not always be the best medical option for the patient • Independently identifies personal biases before exploring family goals for particular therapy modalities and explores with the family the understanding of realistic functional outcomes
Level 5 <i>Mentors others in developing positive therapeutic relationships</i> <i>Role models self-awareness practice while teaching a contextual approach to minimize communication barriers</i> <i>Practices skills including compassion and empathy for shared decision making in patient/patient's family communication including those with a high degree of uncertainty/conflict</i>	• Role models a difficult conversation with a family regarding their child with spinal cord injury to supportively transition discussion from a goal of walking to a goal of progressive independent mobility with an assistive device • Role models a difficult conversation for a patient with transverse myelitis to ensure inclusion of language of uncertainty and a focus on incremental goals
Assessment Models or Tools	• Direct observation • Kalamazoo Essential Elements Communication Checklist (Adapted) • Multisource feedback • Self-assessment including self-reflection exercises • Skills needed to Set the state, Elicit information, Give information, Understand the patient, and End the encounter (SEGUE) • Standardized patients or structured case discussions
Curriculum Mapping	•
Notes or Resources	• Laidlaw A, Hart J. Communication skills: an essential component of medical curricula. Part I: Assessment of clinical communication: AMEE Guide No. 51. <i>Med Teach</i>. 2011;33(1):6-8.

	https://www.researchgate.net/publication/49706184_Communication_skills_An_essential_component_of_medical_curricula_Part_I_Assessment_of_clinical_communication_AMEE_Guide_No_511. 2021. • Makoul G. Essential elements of communication in medical encounters: The Kalamazoo consensus statement. <i>Acad Med</i>. 2001;76(4):390-393. https://www.researchgate.net/publication/264544600_Essential_elements_of_communication_in_medical_encounters_The_Kalamazoo_Consensus_Statement. 2021. • Makoul G. The SEGUE Framework for teaching and assessing communication skills. <i>Patient Educ Couns</i>. 2001;45(1):23-34. https://www.researchgate.net/publication/11748796_The_SEGUE_Framework_for_teaching_and_assessing_communication_skills. 2021. • Symons AB, Swanson A, McGuigan D, Orrange S, Akl EA. A tool for self-assessment of communication skills and professionalism in residents. <i>BMC Med Educ</i>. 2009;9:1. https://bmcmmededuc.biomedcentral.com/articles/10.1186/1472-6920-9-1. 2021.
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Interpersonal and Communication Skills 2: Interprofessional and Team Communication Overall Intent: To effectively communicate with the health care team, including consultants	
Milestones	Examples
Level 1 <i>Uses respectful language that values all members of the health care team</i>	• Listens to and considers others' points of view, is nonjudgmental and actively engaged, and demonstrates humility
Level 2 <i>Communicates information effectively with all health care team members</i>	• Demonstrates active listening by fully focusing on the speaker, making eye contact and reflecting on and summarizing the conversation • Communicates clearly and concisely in an organized and timely manner during consultant encounters, as well as with the health care team in general
Level 3 <i>Identifies the need to adapt communication style, as needed, to fit team needs</i>	• Verifies own understanding of communications from staff member by restating critical values and unexpected diagnoses • Uses teach-back or other strategies to assess understanding during consultations
Level 4 <i>Implements recommendations and communication from different members of the health care team to optimize patient care</i>	• Supportive of group decision making and group responsibility reflective of a collaborative interdisciplinary team model • Adapts communication strategies in handling complex situations • Offers suggestions to negotiate or resolve conflicts among health care team members; raises concerns or provides opinions and feedback, when needed, to superiors on the team
Level 5 <i>Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed</i>	• Role models conflict resolution for the health care team by revisiting team goals and openly discussing conflicting points of view while ensuring each team member feels respected and valued
Assessment Models or Tools	• Direct observation • Global assessment • Medical record (Chart) review for professionalism and accuracy in written communications • Multisource assessment • Simulation encounters
Curriculum Mapping	•
Notes or Resources	• Green M, Parrott T, Cook G. Improving your communication skills. <i>BMJ</i>. 2012;344:e357. https://www.bmj.com/content/344/bmj.e357. 2021. • Henry SG, Holmboe ES, Frankel RM. Evidence-based competencies for improving communication skills in graduate medical education: a review with suggestions for implementation. <i>Med Teach</i>. 2013;35(5):395-403. https://www.tandfonline.com/doi/full/10.3109/0142159X.2013.769677. 2021. • King JC, Blankenship KJ, Schalla W, Mehta A. Rehabilitation Team Function and Prescriptions, Referrals, and Order Writing. In: Frontera WR. <i>DeLisa's Physical Medicine</i>

and Rehabilitation. 5th Ed. Philadelphia, PA; 2010:362-384.

<https://musculoskeletalkey.com/rehabilitation-team-function-and-prescriptions-referrals-and-order-writing/>. 2021.

- Roth CG, Eldin KW, Padmanabhan V, Freidman EM. Twelve tips for the introduction of emotional intelligence in medical education. *Med Teach*. 2018:1-4.

<https://www.tandfonline.com/doi/full/10.1080/0142159X.2018.1481499>. 2021.

Interpersonal and Communication Skills 3: Communication within Health Care Systems Overall Intent: To effectively communicate using a variety of methods	
Milestones	Examples
Level 1 <i>Demonstrates organized and complete clinical, diagnostic and therapeutic reasoning through notes in the patient record</i> <i>Demonstrates basic knowledge of appropriate channels of communication within the institution (e.g., pager callback, timely response to emails)</i>	- Identifies institutional and departmental communication hierarchy for concerns and safety issues - Understands how to contact members of the interprofessional team
Level 2 <i>Regularly updates the medical record, communicating clinical reasoning as care evolves (e.g., on-call evaluations, patient preferences, team/family meetings, conflict resolution, and advanced directives)</i> <i>Communicates through appropriate channels as required by institutional policy (e.g., patient safety reports)</i>	- Notes are organized and accurate, including appropriate modifications when using a copy-and-paste function - Recognizes that a communication breakdown has happened and respectfully brings the breakdown to the attention of the appropriate individual - Reports a patient safety event
Level 3 <i>Demonstrates effective and timely integration and dissemination of information among all available sources to facilitate patient-centered care, including anticipatory recommendations</i> <i>Appropriately selects direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) forms of communication based on context</i>	- Documentation for an adolescent patient with spina bifida includes anticipatory guidance about future sexual health - When an x-ray indicates a fracture warranting an urgent treatment, personally calls patient's family and provides plan for next steps in management
Level 4 <i>Independently documents information in compliance with current regulatory health system requirements (e.g., Centers for Medicare and Medicaid Services, Joint Commission, institutional requirements)</i>	Provides respectful feedback to a colleague who had insufficient documentation that led to a near-miss event due to a communication breakdown

<i>Produces written or verbal communication that serves as an example for others to follow</i>	• Creates a smart phrase and order set to be used consistently to improve botulinum toxin injection outcomes
Level 5 Serves as an expert resource in communication technology <i>Guides departmental or institutional communication around policies and procedures</i>	• Initiates a quality improvement project to improve communication for a multidisciplinary clinic • Leads a task force established by the department to develop a plan to improve house staff hand-offs
Assessment Models or Tools	• Chart review for documented communications • Multisource feedback • Observation of sign-outs, observation of requests for consultations
Curriculum Mapping	•
Notes or Resources	• 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. <i>Teach Learn Med.</i> 2017;29(4):420-432. https://www.tandfonline.com/doi/full/10.1080/10401334.2017.1303385. 2021. • Haig KM, Sutton S, Whittington J. SBAR: a shared mental model for improving communication between clinicians. <i>Jt Comm J Qual Patient Saf.</i> 2006;32(3):167-175. https://www.ncbi.nlm.nih.gov/pubmed/16617948. 2021. • Starmer AJ, Spector ND, Srivastava R, et al. I-PASS, a mnemonic to standardize verbal handoffs. <i>Pediatrics.</i> 2012;129(2):201-204. https://ipassinstitute.com/wp-content/uploads/2016/06/I-PASS-mnemonic.pdf. 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: History and Physical Examination for Pediatric Rehabilitation Patients (appropriate for age and impairment)	PC1: History for Pediatric Rehabilitation Patients PC2: Physical Examination for Pediatric Rehabilitation Patients
PC2: Diagnostic Evaluation of Pediatric Rehabilitation Medicine Patients	PC3: Differential Diagnosis of Pediatric Rehabilitation Medicine Patients PC4: Diagnostic Evaluation of Pediatric Rehabilitation Medicine Patients
PC3: Medical Management of Pediatric Rehabilitation Medicine Patients	PC5: Medical Management of Pediatric Rehabilitation Medicine Patients
PC4: Rehabilitation/Functional Management of Pediatric Rehabilitation Medicine Patients	PC6: Rehabilitation/Functional Management of Pediatric Rehabilitation Medicine Patients – Assistive Devices and Technologies PC7: Rehabilitation/Functional Management of Pediatric Rehabilitation Medicine Patients – Rehabilitation Interventions
PC5: Procedural Skills in Pediatric Rehabilitation Medicine	PC8: Procedural Skills in Pediatric Rehabilitation Medicine
MK1: Physiiatric knowledge (medical, functional, and psychosocial) in the care of pediatric rehabilitation medicine patients	MK1: Physiiatric Knowledge
MK2: Growth and Development	MK2: Growth and Development
SBP1: Systems Thinking: demonstrates awareness of and responsiveness to larger context and system of care in pediatric rehabilitation medicine	SBP3: System Navigation for Patient-Centered Care SBP4: Physician Role in Health Care Systems
SBP2: Patient Safety: Understands ways to improve health care safety through participation in identifying system errors and implementing potential systems solutions	SBP1: Patient Safety in Pediatric Rehabilitation
PBL11: Self-directed Learning and Teaching	PBLI2: Reflective Practice and Commitment to Personal Growth
PBLI2: Locates, appraises, assimilates, and applies evidence from scientific studies to the practice of pediatric rehabilitation medicine	PBLI1: Evidence-Based and Informed Practice

PBLI3: Quality Improvement (QI)	SBP2: Quality Improvement in Pediatric Rehabilitation
PROF1: Demonstrates compassion, integrity, and respect for others, as well as sensitivity and responsiveness to diverse patient populations, including to diversity in gender, age, culture, race, religion, disabilities, developmental level, and sexual orientation, and an adherence to ethical principles	PROF1: Ethical Principles ICS2: Interprofessional and Team Communication
PROF2: Professional Behaviors and Accountability to Self, Patients, Society, and the Profession	PROF2: Professional Behaviors PROF3: Accountability
ICS1: Relationship Management	ICS1: Patient- and Family-Centered Communication
ICS2: Information Gathering and Sharing	ICS1: Patient- and Family-Centered Communication ICS2: Interprofessional and Team Communication ICS3: Communication within Health Care Systems
No match	PROF4: Patient Care Etiquette with Patients of all Abilities
No match	PROF5: Well-Being and Help-Seeking

Available Milestones Resources

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

Milestones Guidebooks: <https://www.acgme.org/milestones/resources/>

- *Assessment Guidebook*
- *Clinical Competency Committee Guidebook*
- *Clinical Competency Committee Guidebook Executive Summaries*
- *Implementation Guidebook*
- *Milestones Guidebook*

Milestones Guidebook for Residents and Fellows: <https://www.acgme.org/residents-and-fellows/the-acgme-for-residents-and-fellows/>

- *Milestones Guidebook for Residents and Fellows*
- *Milestones Guidebook for Residents and Fellows Presentation*
- *Milestones 2.0 Guide Sheet for Residents and Fellows*

Milestones Research and Reports: <https://www.acgme.org/milestones/research/>

- *Milestones National Report*, updated each fall
- *Milestones Predictive Probability Report*, updated each fall
- *Milestones Bibliography*, updated twice each year

Developing Faculty Competencies in Assessment courses - <https://www.acgme.org/meetings-and-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://team.acgme.org/>

Improving Assessment Using Direct Observation Toolkit - <https://dl.acgme.org/pages/acgme-faculty-development-toolkit-improving-assessment-using-direct-observation>

Remediation Toolkit - <https://dl.acgme.org/courses/acgme-remediation-toolkit>

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