# The Physical Medicine and Rehabilitation Milestone Project

*A Joint Initiative of*

The Accreditation Council for Graduate Medical Education

and

The American Board of Physical Medicine and Rehabilitation



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# The Physical Medicine and Rehabilitation Milestone Project

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

## Physical Medicine and Rehabilitation Milestones

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## Milestone Reporting

This document presents milestones designed for programs to use in semiannual review of resident performance and reporting to the ACGME. Milestones are knowledge, skills, attitudes, and other attributes for each of the ACGME competencies organized in a developmental framework from less to more advanced. They are descriptors and targets for resident performance as a resident moves from entry into residency through graduation. The Review Committee will examine milestone performance data for each program's residents as one element in the Next Accreditation System (NAS) to determine whether residents overall are progressing.

For each reporting period, review and reporting will involve selecting the level of milestones that best describes a resident's current performance level in relation to milestones, using evidence from multiple methods, such as direct observation, multi-source feedback, tests, and record reviews, etc. Milestones are arranged into numbered levels. These levels do not correspond with post-graduate year of education.

Selection of a level implies that the resident substantially demonstrates the milestones in that level, as well as those in lower levels (see the diagram on page v). A general interpretation of levels for physical medicine and rehabilitation is below:

**Level 1:** The resident demonstrates milestones expected of an incoming resident.

**Level 2:** The resident is advancing and demonstrates additional milestones, but is not yet performing at a mid-residency level.

**Level 3:** The resident continues to advance and demonstrate additional milestones; the resident demonstrates the majority of milestones targeted for residency in this sub-competency.

**Level 4 (Graduation Target):** The resident has advanced so that he or she now substantially demonstrates the milestones targeted for residency. This level is designed as the graduation target.

**Level 5 (Aspirational):** The resident has advanced beyond performance targets set for residency and is demonstrating "aspirational" goals which might describe the performance of someone who has been in practice for several years. It is expected that only a few exceptional residents will reach this level.

**Additional Notes**

Level 4 is designed as the graduation *target* and does not represent a graduation *requirement*. Making decisions about readiness for graduation is the purview of the residency program (See the Milestones FAQ for further discussion of this issue: "Can a resident/fellow graduate if he or she does not reach every milestone?"). Study of Milestone performance data will be required before the ACGME and its partners will be able to determine whether Level 4 milestones and milestones in lower levels are in the appropriate level within the developmental framework, and whether Milestone data are of sufficient quality to be used for high stakes decisions.

Use of "Has not Achieved Level 1" – This option indicates that the resident has not substantially demonstrated Level 1 milestones. This option is appropriate for when the resident has not had an opportunity to learn and demonstrate the milestones (e.g., for PGY-1 residents who are learning basic clinical skills and have not yet had the relevant physical medicine and rehabilitation rotation/learning experience) or when the resident is performing sub-optimally. Regardless of the cause, the implication is that the resident needs future learning opportunities related to this milestone.

The Review Committee requires reporting on only the single Medical Knowledge milestone which reflects progress to date on acquiring and applying a broad base of physiatric knowledge. The appendix contains milestones in nine specific Medical Knowledge areas that programs may use in developing curriculum, clinical rotations, and evaluation of residents. When assigning a rating on the single Medical Knowledge milestone, the Clinical Competency Committee should take into consideration such items as the breadth of the resident's experience to date, the resident's performance in the nine specific areas of Medical Knowledge, other aspects of Medical Knowledge the program deems important, and performance on the milestones in Patient Care 4, Practice-based Learning and Improvement 1, and Practice-based Learning and Improvement 2.

There are references to "across a spectrum of ages" in several Milestone sets. "Across a spectrum of ages" includes pediatric to geriatric rehabilitation populations. Competency at the level of a physical medicine and rehabilitation generalist (as opposed to physical medicine and rehabilitation subspecialist) is expected.

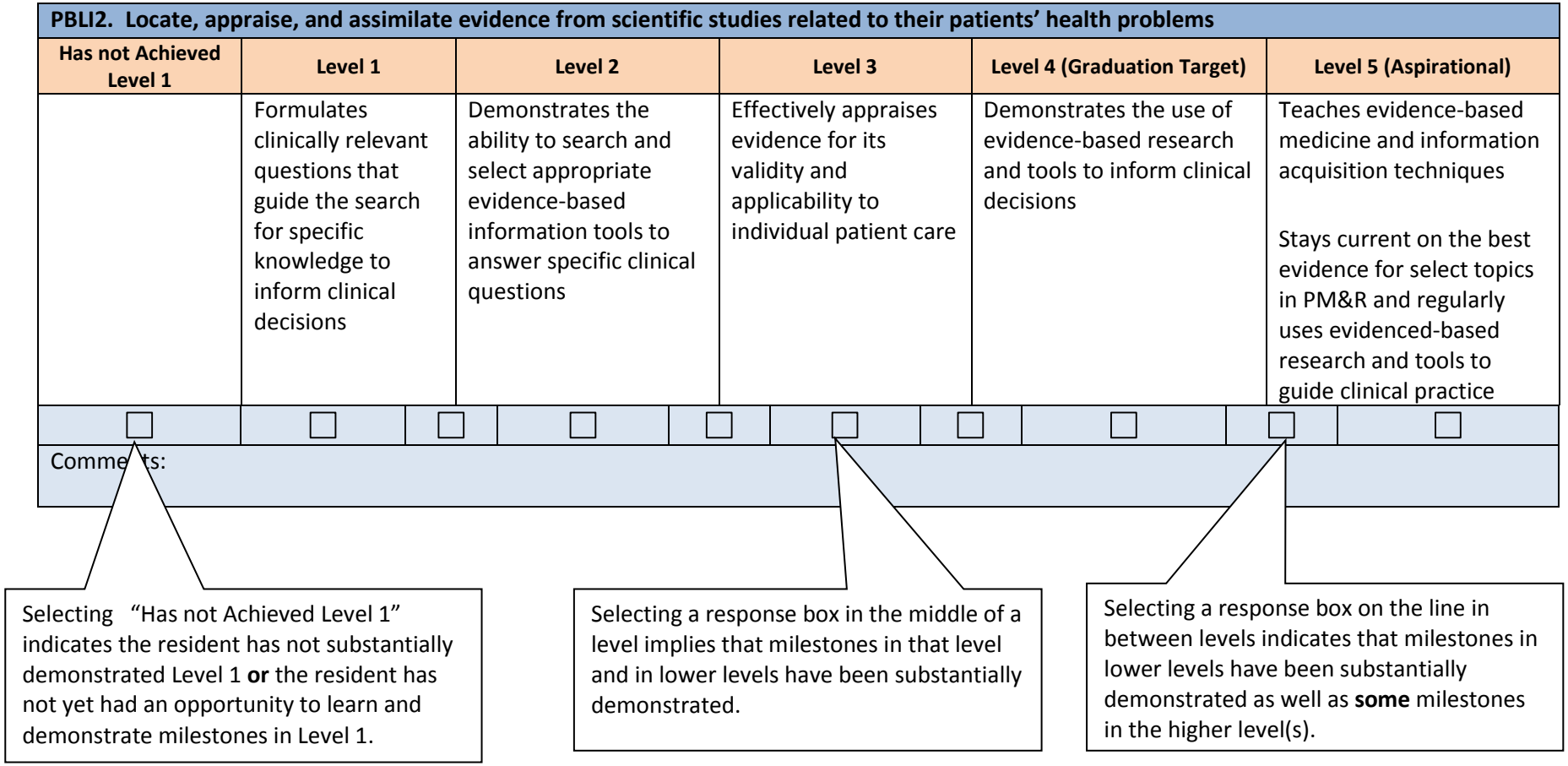
*Answers to Frequently Asked Questions about Milestones are available on the Milestones web page:*
*http://www.acgme.org/acgmeweb/Portals/0/MilestonesFAQ.pdf.*

The diagram below presents an example set of milestones for one sub-competency in the same format as the ACGME Report Worksheet. For each reporting period, a resident's performance on the milestones for each sub-competency will be indicated by:

- selecting the level of milestones that best describes the resident's performance in relation to the milestones

or

- selecting the "Has not Achieved Level 1" response option



For each General Competency domain, the ACGME Report Worksheet asks for an overall assessment of each resident's learning trajectory. An example overall assessment statement is presented below.

**Patient Care.** The resident is demonstrating satisfactory development of the knowledge, skill and attitudes/behaviors needed to advance in residency. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, timely, equitable, effective, and patient-centered care.

_____Yes _____No

# PHYSICAL MEDICINE AND REHABILITATION MILESTONES
## ACGME Report Worksheet

| PC1. History (Appropriate for age and impairment) | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Acquires a general medical history | Acquires a basic physiatric history, including medical, functional, and psychosocial elements | Acquires a comprehensive physiatric history integrating medical, functional, and psychosocial elements<br><br>Documents and presents in a complete and organized manner | Efficiently acquires and presents a relevant history in a prioritized and hypothesis-driven fashion across a spectrum of ages and impairments<br><br>Elicits subtleties and information that may not be readily volunteered by the patient | Rapidly focuses on the presenting problem, and elicits key information in a prioritized and efficient fashion<br><br>Models the gathering of subtle and difficult information from the patient |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| PC 2. Physiatric Physical Examination (including general medical, neurologic, musculoskeletal, and gait adapted for age and impairment) | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Performs a general physical exam | Performs a physical exam that assists in functional assessment (e.g., may include balance, gait, cognition, neurologic, or musculoskeletal assessments)<br><br>Begins to identify normal and pathologic findings | Performs a relevant, accurate, comprehensive disorder-specific physical exam<br><br>Modifies exam to accommodate the patient's impairments and minimize discomfort | Efficiently performs a hypothesis-driven and targeted physical exam that drives clinical decision making across a spectrum of ages, impairments, and clinical settings<br><br>Identifies and correctly interprets subtle or atypical physical findings | Rapidly focuses on the presenting problem and elicits key information from the exam in a prioritized and efficient fashion<br><br>Models and teaches exam skills in complex patients |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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**PC 3. Diagnostic Evaluation**
**This includes:**

- **Differential diagnosis of primary and secondary conditions**
- **Laboratory studies, imaging, electrodiagnostic studies, urodynamics, cardiopulmonary assessment, neuropsychological testing, etc.**
- **Functional Assessment Measures such as FIM, functional capacity evaluation, etc.**

| Has not Achieved Level 1 | Level 1 | Level 2 | Level 3 | Level 4 (Graduation Target) | Level 5 (Aspirational) |
|---|---|---|---|---|---|
| | Produces a differential diagnosis for common medical conditions<br><br>Orders appropriate diagnostic studies for common medical conditions | Generates a differential diagnosis that includes conditions commonly seen in physiatric practice<br><br>Orders appropriate diagnostic studies for conditions commonly seen in physiatric practice | Develops a comprehensive differential diagnosis, including less common conditions<br><br>Appropriately prioritizes the sequence and urgency of diagnostic testing<br><br>Correctly interprets diagnostic study results and appropriately pursues further testing or specialist input | Produces a focused and prioritized differential diagnosis across a spectrum of ages and impairments<br><br>Orders diagnostic testing based on cost effectiveness and likelihood that results will influence clinical management<br><br>Appropriately integrates functional assessment measures into overall evaluation | Efficiently produces a focused and prioritized differential diagnosis accounting for rare conditions<br><br>Streamlines testing for maximal cost-effectiveness and minimal patient burden |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

Comments:

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**PC 4. Medical Management**

**This includes inpatient, outpatient, and consultative management of:**

- **Current co-morbidities (e.g., hypertension, diabetes, coronary artery disease, COPD)**
- **Secondary conditions (e.g., restrictive lung disease, neurogenic bladder and bowel, neurobehavioral disorder, autonomic dysfunction, pain)**
- **Potential complications (e.g., DVT, UTI, aspiration pneumonia, pressure ulcer)**

| Has not Achieved Level 1 | Level 1 | Level 2 | Level 3 | Level 4 (Graduation Target) | Level 5 (Aspirational) |
|---|---|---|---|---|---|
| | Evaluates general medical problems and initiates treatment | Identifies and manages common medical co-morbidities and secondary conditions associated with neurological, neuromuscular, and musculoskeletal injuries and diseases | Manages patients with complex medical co-morbidities and secondary conditions<br><br>Identifies individual risk factors for medical complications and institutes preventive care<br><br>Uses appropriate medical consultations to guide treatment plan | Develops and implements a comprehensive treatment plan that identifies and addresses all active medical co-morbidities, secondary conditions, and potential complications<br><br>Counsels patients and families regarding treatment risks and benefits, outcomes, and prognosis | Consistently performs evidence-based medical management in an efficient and effective manner<br><br>Evaluates and appropriately applies emerging treatments in individual patients |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

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| **PC 5. Rehabilitation/Functional Management**<br>**Includes rehabilitation interventions in inpatient, outpatient, and consultative management, such as:**<br>• **Rehabilitation therapies (e.g., therapeutic exercise, modalities)**<br>• **Prosthetics and orthotics**<br>• **Equipment/devices (e.g., adaptive equipment, seating systems, assistive technologies)** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Describes basic impairments, activity limitations, and participation restrictions resulting from disease or injury | Prescribes appropriate rehabilitation therapies by **discipline** based on functional need<br><br>Identifies precautions and absolute contraindications to therapy<br><br>Prescribes commonly used orthoses, adaptive devices, and mobility aids (e.g., positional orthoses, reachers, universal cuff, walker, cane) | Provides detailed therapy prescription for **specific conditions** with appropriate precautions<br><br>Prescribes appropriate upper and lower extremity and spinal orthoses<br><br>Identifies key structural components of wheelchairs and how modifications to the wheelchair can influence function | Integrates comprehensive knowledge of impairments, activity limitations, and participation restrictions to prescribe rehabilitation interventions focused on maximizing function and quality of life<br><br>Prescribes commonly used prostheses<br><br>Prescribes assistive technologies, seating systems, and mobility devices in partnership with the interdisciplinary team | Demonstrates the ability to direct and implement rehabilitation interventions in uncommon clinical conditions<br><br>Is viewed as a resource by orthotists, prosthetists, therapists, and other health care professionals for problem solving unusual clinical and functional challenges |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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**PC 6. Procedural Skills (not including axial injections)**
**This includes:**

- **Joint and soft tissue injections (e.g., intraarticular, trigger point, bursal, perineural, tendon sheath)**
- **Spasticity injections (e.g., chemodenervation, neurolytic procedures)**
- **Guidance (e.g., anatomic, EMG, electrical stimulation, ultrasound)**

| Has not Achieved Level 1 | Level 1 | Level 2 | Level 3 | Level 4 (Graduation Target) | Level 5 (Aspirational) |
|---|---|---|---|---|---|
| | Complies with safety protocols regarding procedures | Demonstrates basic understanding of which injections should be used to treat specific conditions<br><br>Educates patients regarding procedure-specific information and treatment options on a basic level<br><br>Performs injections with direct supervision; may need attending intervention during procedure | Makes appropriate choices regarding medication options, dosing, and guidance methods<br><br>Obtains informed consent, confirming patient understanding and inviting questions<br><br>Modifies procedure to accommodate the patient's impairment and minimize discomfort | Demonstrates thorough understanding of situations when injections are indicated and contraindicated, taking into account level of evidence, cost-effectiveness, and long-term outcomes<br><br>Performs injections without attending intervention | Skillfully performs a wide variety of procedures and supervises others in the safe performance of these procedures |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

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| PC 7. Procedural Skills: Electrodiagnostic Procedures | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Describes basic anatomy of peripheral nerves and skeletal muscle | Performs a focused history and physical exam pertinent to the electrodiagnostic study<br><br>Identifies sites of stimulation for nerves commonly studied<br><br>Identifies sites of electromyography (EMG) needle insertion in muscles commonly studied<br><br>Describes basic nerve physiology and instrumentation involved in standard nerve conduction studies (NCS) and EMG | Identifies the relative contraindications for electrodiagnostic studies<br><br>Performs nerve conduction studies required for common focal/peripheral neuropathies (e.g., median, ulnar, radial, peroneal, tibial, sural nerves, H reflex, F wave); recognizes abnormal values and common sources of error<br><br>Performs needle EMG and identifies normal and abnormal findings and their significance<br><br>Analyzes data from EMG and NCS to formulate a diagnosis | Develops a comprehensive differential diagnosis based on history and exam that guides the electrodiagnostic study<br><br>Uses electrodiagnostic data to modify the study as it is being performed<br><br>Prepares a complete electrodiagnostic report with appropriate recommendations<br><br>Performs unusual NCS (e.g., blink reflex, repetitive nerve stimulation, proximal nerve conduction studies) with supervision | Recognizes and reconciles results that are not consistent with findings on history and physical exam<br><br>Prioritizes the electrodiagnostic study, based on presenting symptomatology, in a rapid and efficient fashion<br><br>Demonstrates advanced performance of electrodiagnostic procedures and completion of an appropriate and concise report |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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**Patient Care.** The resident is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in residency. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, timely, equitable, effective, and patient-centered care.

_____Yes _____No

| Comments, please provide when "No" is checked: |
| --- |
| |

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**Medical Knowledge (MK)**
**Physiatric knowledge (medical, functional, and psychosocial) in the care of physical medicine and rehabilitation patients includes:**

- **Epidemiology and etiology**
- **Anatomy and pathophysiology**
- **Therapeutic and diagnostic options**
- **Prognosis and outcomes**

**Core Areas Include:**
**Spinal cord disorders, brain disorders, stroke, amputation, neuromuscular disorders, musculoskeletal disorders, pain, pediatric disorders, and spasticity**

| Has not Achieved Level 1 | Level 1 | Level 2 | Level 3 | Level 4 (Graduation Target) | Level 5 (Aspirational) |
|---|---|---|---|---|---|
| | Applies basic medical knowledge to provide care for common medical conditions and basic preventive care | Applies basic physiatric knowledge to care for common neuro-musculo-skeletal conditions | Synthesizes and applies physiatric knowledge in **common** neuro-musculo-skeletal conditions, secondary conditions, and complications<br><br>Predicts functional outcome and prognosis based on impairments | Synthesizes and applies physiatric knowledge in **complex** neuro-musculo-skeletal conditions, secondary conditions, and complications across a spectrum of ages, impairments, and clinical settings<br><br>Able to extrapolate information to new clinical situations | Possesses the physiatric knowledge required to successfully diagnose and treat uncommon, ambiguous, and complex conditions<br><br>Demonstrates knowledge of controversial, emerging, and investigational interventions |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

Comments:

**Medical Knowledge**. The resident is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in residency. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, timely, equitable, effective, and patient-centered care.

_____Yes _____No

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| Comments, please provide when “No” is checked: |
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| **SBP 1. Systems thinking: demonstrates awareness of and responsiveness to larger context and system of care, including:**<br>• **Working effectively in various health care delivery settings and systems relevant to physical medicine and rehabilitation**<br>• **Coordinating patient care within the health care system**<br>• **Advocating for quality patient care and optimal patient care systems** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Acknowledges that health care is delivered in a complex system of care | Describes and differentiates between the various systems of care in which rehabilitation is provided (e.g., acute care; inpatient rehabilitation facility (IRF); skilled nursing facility (SNF), outpatient, home health care, etc.) | Has learned to coordinate care across a variety of settings (e.g., inpatient, outpatient, consultative, etc.)<br><br>Incorporates patient-specific rehabilitation needs, social factors, cost/benefit, and resources into decision-making (e.g., inpatient admission, length of stay, discharge destination, equipment, essential outpatient services, medical management, etc.) | Advocates for and provides high-quality, safe, well-coordinated, patient-centered care across the health care system<br><br>Efficiently manages and coordinates patient transitions between various settings (e.g., acute, IRF, SNF, community, etc.) | Optimally coordinates care and advocates to improve care provided through health care, social/community, and governmental systems<br><br>Successfully organizes appeals for coverage and advocates for patient and family in complex situations<br><br>Maintains regulatory compliance, including accurate coding and billing |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| **SBP 2. Team approach to enhance patient care coordination. Rehabilitation team members may include occupational and physical therapists, speech language pathologists, rehabilitation nurses, nurse practitioners, psychologists, therapeutic recreation specialists, case managers, social workers, and education and vocational specialists.** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Actively participates in team-based care | Directs questions/comments to appropriate team members demonstrating understanding of their roles in patient care | Collaborates effectively and respectfully with the patient and family, multiple providers, and the interdisciplinary team to develop patient-centered goals | Leads the interdisciplinary team to ensure high quality, safe patient care<br><br>Creates an environment where team members are encouraged to voice concerns and share their expertise | Anticipates team dynamics and effectively manages interactions to optimize group performance |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| SBP 3. Patient safety: Understands ways to improve health care safety through participation in identifying system errors and implementing potential systems solutions | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Recognizes the impact of process and systems failures on patient safety | Participates in established safety initiatives (e.g., use of approved abbreviations, isolation precautions, hand washing)<br><br>Applies structured process(es) to foster clear, concise, accurate, and specific communication during patient hand-offs | Identifies health system factors that increase risk for errors, (e.g., errors in the Electronic Medical Record, lack of health information exchange)<br><br>Utilizes existing processes and procedures for reporting problematic events | Partners with others in activities to improve patient safety<br><br>Learns from critical incidents or systems failures that have impacted patient safety | Leads systems-level patient safety interventions<br><br>Proactively identifies system failures and risks for medical errors |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

**Systems-Based Practice.** The resident is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in residency. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, timely, equitable, effective, and patient-centered care.

_____Yes _____No

| Comments, please provide when "No" is checked: |
|---|
| |

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| **PBLI 1. Self-Directed Learning and Teaching**<br>• **Identify strengths, deficiencies, and limits in one's knowledge and expertise**<br>• **Set learning and improvement goals**<br>• **Identify and perform appropriate learning activities**<br>• **Use information technology to optimize learning**<br>• **Participate in the education of students, residents, and other health professionals** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Acknowledges gaps in personal knowledge<br><br>Utilizes information technology, and/or clinical supervisors for immediate information needs | Accepts feedback and, with guidance, is able to develop focused learning goals<br><br>Actively participates in educational offerings | Identifies diagnosis-specific knowledge gaps and uses information technology to optimize self-directed learning<br><br>Participates in teaching of residents and students | Develops and follows a learning plan that addresses gaps in knowledge establishing the foundation for life-long learning | Engages in a deliberate process to maintain up-to-date knowledge and skills in physical medicine and rehabilitation |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| PBLI 2. Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Formulates clinically relevant questions that guide the search for specific knowledge to inform clinical decisions | Demonstrates the ability to search and select appropriate evidence-based information tools to answer specific clinical questions | Effectively appraises evidence for its validity and applicability to individual patient care | Demonstrates the use of evidence-based research and tools to inform clinical decisions | Teaches evidence-based medicine and information acquisition techniques<br><br>Stays current on the best evidence for select topics in physical medicine and rehabilitation and regularly uses evidence-based research and tools to guide clinical practice |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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**PBLI 3. Quality Improvement (QI)**
**Residents must actively participate in interdisciplinary clinical quality improvement**
**Residents are expected to develop skills and habits to systematically analyze practice using quality improvement methods, and implement changes with the goal of improving systems of care, reducing health care disparities and improving patient outcomes**
**Basic QI Principles include:**

- **Identifying symptoms of a problem**
- **Diagnosing the problem with a process-oriented, data-driven approach**
- **Identifying the root cause(s)**
- **Selecting strategies for change**
- **Implementing the plan and monitoring over time for desired outcome**

| Has not Achieved Level 1 | Level 1 | Level 2 | Level 3 | Level 4 (Graduation Target) | Level 5 (Aspirational) |
|---|---|---|---|---|---|
| | Identifies inefficiencies and variations in health care delivery | Understands basic quality improvement principles<br><br>Identifies specific care processes in need of improvement | Demonstrates active involvement in processes aimed at improving patient care and decreasing inefficiency and waste | Identifies opportunities for process improvement in everyday work, and applies QI principles into identifying, testing, and evaluating potential solutions | Leads QI projects and supervises others in the process<br><br>Teaches QI principles |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

Comments:

**Practice-based Learning and Improvement.** The resident is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in residency. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, timely, equitable, effective, and patient-centered care.

_____Yes _____No

Comments, please provide when "No" is checked:

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| PROF1. Compassion, integrity, and respect for others, as well as sensitivity and responsiveness to diverse patient populations, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Demonstrates compassion, integrity, respect, sensitivity, and responsiveness in routine interactions with patients, families, and team members | Displays understanding of diverse patient groups and their support systems | Applies knowledge about the beliefs and values of individual patients to provide patient-centered care | Exhibits compassion, integrity, and respect in challenging interactions with patients and families, including when beliefs and choices vary from those of the treatment team | Demonstrates leadership and mentoring, including the education of others regarding these principles |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

| PROF2. Knowledge about, respect for, and adherence to the ethical principles (including beneficence, least harm, respect for autonomy, and justice) relevant to the practice of medicine | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Demonstrates awareness of how personal values and beliefs can impact patient care | Identifies ethical issues in clinical situations (e.g., declining a feeding tube) | Analyzes common ethical issues and seeks guidance when appropriate (e.g., ethics consult, pastoral counseling, compliance) | Effectively manages ethical issues in clinical situations | Leads and mentors others regarding application of bioethical principles |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| PROF3. Professional behaviors and accountability to self, patients, society, and the profession | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Complies with HIPPA guidelines in all clinical situations<br><br>Demonstrates professional accountability, including timely completion of professional responsibilities and being dressed and groomed appropriately | Demonstrates awareness of the influence of personal health and wellness, including the effect of fatigue and sleep deprivation on safe and effective patient care | Demonstrates that the responsibility of patient care supersedes self-interest (e.g., ensures all patient care hand-offs are completed before leaving the hospital)<br><br>Utilizes effective individual strategies and local resources, as necessary, to limit stress or burnout | Actively participates in service activities, such as community service, professional organizations, or program or institutional committees<br><br>Recognizes conflicts of interest and how they affect clinical decision-making, teaching, or research activities | Contributes to regional- or national-level service<br><br>Models altruism and professional behaviors |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

**Professionalism.** The resident is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in residency. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, timely, equitable, effective, and patient-centered care.

_____Yes _____No

| Comments, please provide when “No” is checked: |
|---|
| |

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| ICS 1. Relationship Management | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Identifies factors that affect communication (e.g., language, speech, hearing, vision, and cognitive impairments)<br><br>Forms positive interpersonal relationships (e.g., supportive response to patient's emotions, active listening, responsiveness to needs) when interacting with patients in uncomplicated situations | Utilizes effective verbal and non-verbal communication strategies (including active listening, augmentative communication devices, interpreters, etc.)<br><br>Develops positive working relationships with families and health care providers | Effectively educates and counsels patients and families, utilizing strategies to ensure understanding (e.g., "teach back")<br><br>Identifies resolution options for patient care-related conflicts (e.g., eliciting the patient's, family members', and/or providers' perspectives, arriving at common goals) | Consistently anticipates the need for, and effectively facilitates family meetings, including all relevant disciplines<br><br>Sustains positive relationships with families and health care providers during challenging situations<br><br>Manages conflict effectively (e.g., proposing resolutions and arriving at a mutually satisfactory solution) among patient, family, and healthcare providers to ensure patient-centered care | Uses knowledge to lead complex discussions, education and counseling with patients and families regarding life-changing effects of disability and sequelae<br><br>Serves as an expert resource in complex relationship management |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| ICS 2. Information gathering and sharing | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Describes the positive and negative effects of information technology on accuracy of information | Ensures medical records are accurate and complete, with attention to preventing confusion and error (e.g., makes appropriate modifications when using copy-and-paste function) | Regularly updates the medical record communicating clinical reasoning as care evolves (e.g., on-call evaluations, patient preferences, team/family meetings, conflict resolution, and advance directives) | Demonstrates effective integration of information from all available sources to facilitate patient-centered care<br><br>Documents information in compliance with current regulatory requirements (e.g., CMS, Joint Commission, Institutional Requirements) | Serves as an expert resource in communication technology |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

**Interpersonal and Communication Skills.** The resident is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in residency. He or she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, timely, equitable, effective, and patient-centered care.

_____Yes _____No

| Comments, please provide when "No" is checked: |
|---|
| |

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# APPENDIX: Medical Knowledge

**These milestone sets are for programs to use for tracking of resident progress. They are not for reporting to the ACGME.**

| **MK 1: Spinal Cord Disorders (this includes traumatic, non-traumatic, congenital)<br>Secondary conditions and complications include: neurogenic bowel/bladder, respiratory dysfunction, spasticity, pressure ulcers, autonomic dysfunction, venous thromboembolism (VTE), heterotopic ossification (HO), sexual dysfunction, pain, syrinx, osteoporosis, etc.** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Describes basic spine and spinal cord anatomy | Discusses the effects of insult to specific anatomical spinal cord regions<br><br>Describes prevention and management of **common** secondary conditions and complications (e.g., VTE, pressure sores, urinary tract infection) | Predicts functional outcome and prognosis based on impairment<br><br>Describes prevention and management of **less common** secondary conditions and complications (e.g., syrinx, HO), including expected effects, side effects, and contraindications of treatment | Demonstrates knowledge of acute care management of spinal cord disorders<br><br>Integrates knowledge into a comprehensive treatment plan and identifies reasonable, achievable, detailed, functional goals<br><br>Discusses the use of advanced treatments and technology (e.g., electrical stimulation, tendon transfers) | Demonstrates knowledge of controversial and emerging therapies and investigational interventions<br><br>Delineates a spinal cord injury-specific health maintenance program across the life span<br><br>Serves as an expert resource to other health care professionals regarding life-changing effects of spinal cord disorders and sequelae |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| **MK 2. Brain Disorders (including traumatic and non-traumatic etiologies; excluding stroke)**<br><br>**Secondary conditions and complications include: behavioral dysfunction, autonomic dysfunction, sleep cycle dysregulation, cognitive deficits, impaired alertness, decreased safety awareness, hydrocephalus, spasticity, pain, bladder incontinence, dysphagia, seizures, HO, depression, etc.** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Describes basic brain anatomy | Discusses the effects of insult to specific anatomical brain regions<br><br>Describes prevention and management of **common** secondary conditions and complications (e.g., agitation, spasticity)<br><br>Describes basic concepts regarding the psychosocial impact of the brain disorder on the patient and caregivers | Explains pathophysiology and interprets diagnostic information, including results of neuropsychological testing related to specific brain disorders<br><br>Describes prevention and management of **less common** secondary conditions and complications (e.g., HO, autonomic dysfunction), including expected effects, side effects and contraindications of treatment | Demonstrates knowledge of acute care management of brain disorders<br><br>Integrates knowledge into a comprehensive treatment plan and identifies reasonable, achievable, detailed, functional goals<br><br>Predicts long-term functional outcome and care needs based on prognostic factors | Demonstrates knowledge of controversial and emerging therapies and investigational interventions<br><br>Serves as an expert resource to other health care professionals regarding life-changing effects of brain disorders and sequelae |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| **MK 3. Stroke**<br>**Secondary conditions and complications include: cognitive deficits, communication deficits, motor and sensory impairments, bowel dysfunction, bladder incontinence, spasticity, dysphagia, VTE, depression, shoulder dysfunction, pain, etc.** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Describes basic functional organization and vascular supply of the brain | Describes stroke pathophysiology and correlates impairments with lesion location in **common** stroke syndromes<br><br>Identifies risk factors for recurrent stroke<br><br>Describes prevention and management of secondary conditions and complications<br><br>Identifies treatment interventions for acute stroke | Correlates impairments with lesion location in **less common** (e.g., brain stem) stroke syndromes<br><br>Articulates expected pattern and timing of recovery and prognosis for functional return | Integrates knowledge into a comprehensive treatment plan and identifies reasonable, achievable, detailed, functional goals<br><br>Predicts long-term functional outcome and care needs based on prognostic factors | Demonstrates knowledge of controversial and emerging therapies and investigational interventions<br><br>Serves as an expert resource to other health care professionals regarding life-changing effects of stroke and sequelae |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| **MK 4. Amputation**<br>**Secondary conditions and complications include: phantom pain, residual limb pain, contracture, skin breakdown, bone overgrowth, neuroma, verrucous hyperplasia** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Describes common causes of upper and lower limb amputations | Identifies different levels of upper and lower limb amputations<br><br>Discusses principles of pre-prosthetic training<br><br>Demonstrates knowledge of components of commonly used lower limb prostheses | Discusses risk factors for amputation, determination of level of amputation, and common interventions for limb preservation<br><br>Discusses principles of post-operative residual limb management<br><br>Describes prevention and management of complications | Integrates knowledge of biomechanics and anatomy in identifying gait deviations secondary to prosthetic use<br><br>Applies knowledge of energy expenditure based on level of amputation and premorbid function in establishing functional goals<br><br>Generates prosthetic prescription which incorporates knowledge of the functional classification levels (e.g., K levels) and patient-specific needs<br><br>Demonstrates knowledge of components of commonly used upper limb prostheses | Enumerates technological advances in prosthetic design, such as use of innovative materials and neural prosthetic control<br><br>Serves as an expert resource to prosthetists and therapists regarding prosthetic management<br><br>Serves as an expert resource to surgical team in determining best level of amputation to maximize functional outcome and wound healing |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| **MK 5. Nerve and Muscle Disorders**<br>**Disorders include: acquired and hereditary neuropathies (both focal and peripheral), muscular dystrophies/disorders, inflammatory myopathies, motor neuron disease, NMJ disorders**<br>**Secondary conditions and complications include: scoliosis, skin breakdown, pulmonary compromise, dysphagia, cardiac disease, pain, contracture, etc.** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Describes basic nerve and muscle anatomy and physiology | Describes clinical presentations of common neuromuscular conditions (e.g., peripheral and focal neuropathy)<br><br>Identifies the anatomy, pathophysiology, and etiology in acquired focal neuropathies | Recognizes risk factors and features in critical illness weakness syndromes<br><br>Discusses the secondary conditions and complications associated with peripheral neuropathies<br><br>Cites effects of medications, toxins, and radiation on the neuromuscular system | Integrates knowledge of pathophysiology and natural history of neuromuscular disorders and their secondary conditions to develop a physiatric care plan, including appropriate referrals<br><br>Discusses the use of durable medical equipment and technology specifically focused on maximizing patient function and improving outcome (e.g., assistive technology, non-invasive and invasive ventilation, seating systems) | Demonstrates knowledge of controversial and emerging therapies and investigational interventions<br><br>Serves as an expert resource in the multidisciplinary care of the neuromuscular patient<br><br>Describes relevant genetics and laboratory testing for diagnosis and family planning |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| **MK6. Musculoskeletal Disorders**<br>**Includes: arthritides, acute and chronic soft tissue injuries and disorders, osteoporosis, spinal disorders, fractures** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Describes basic musculoskeletal anatomy | Discusses functional anatomy as related to disorders of specific body regions<br><br>Describes clinical presentations of common musculoskeletal disorders | Differentiates etiologies for musculoskeletal syndromes across the spectrum of ages and impairments<br><br>Demonstrates knowledge of appropriate pharmacologic and therapeutic treatment options, including expected effects, side effects, and contraindications<br><br>Predicts impact of musculoskeletal disorder on functional outcome (i.e., return to work, sport, etc.) | Integrates knowledge of anatomy, pathophysiology, and diagnostic information into a comprehensive treatment plan<br><br>Articulates evidence-based indications and contraindications for invasive treatment options (including procedures and surgical intervention)<br><br>Identifies normal and abnormal findings on common musculoskeletal imaging<br><br>Integrates knowledge of biomechanics and kinetic chain into evaluation and treatment plan<br><br>Identifies signs and symptoms that suggest a serious medical condition in need of urgent evaluation | Demonstrates knowledge of controversial and emerging therapies and investigational interventions<br><br>Serves as an expert resource in the multidisciplinary management of complex musculoskeletal disorders |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| MK 7. Pain | | | | | |
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| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Describes the components of a basic pain history<br><br>Identifies basic medications for pain management | Describes basic pain anatomy and physiology<br><br>Identifies medications and other substances used for treatment of nociceptive and neuropathic pain<br><br>Identifies the role of rehabilitation therapeutic options in the management of pain<br><br>Recognizes the need for evaluation of psychosocial risk factors in the comprehensive pain evaluation | Describes the etiology and clinical presentation of common pain syndromes (e.g., fibromyalgia, Complex Regional Pain Syndrome, whiplash, headaches, cancer, etc.)<br><br>Describes basic concepts related to chronic opioid management, including addiction, tolerance, and physical dependence | Integrates knowledge of anatomy, pathophysiology, and diagnostic information into a comprehensive treatment plan, including psychological and behavioral management<br><br>Describes the current theories in the pathophysiology of chronic pain syndromes<br><br>Demonstrates knowledge of the indications and contra-indications for axial and peripheral pain procedures, including efficacy and potential complications | Demonstrates expertise in chronic opioid management, including addiction issues, surveillance, and drug testing<br><br>Serves as an expert resource in the multidisciplinary management of complex pain disorders |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| **MK 8. Pediatric Disorders**<br>**Includes: cerebral palsy, limb deficiency, common neuromuscular and musculoskeletal disorders, spinal cord injury, spinal dysraphism, acquired brain injury/disorders, etc.** | | | | | |
|---|---|---|---|---|---|
| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Demonstrates knowledge of basic normal childhood development | Effectively utilizes knowledge of childhood development to perform a history, physical exam, and functional evaluation in children with common disabilities | Incorporates knowledge of age-relevant psychosocial factors, including education, recreational activities, and family issues into development of the care plan | Utilizes knowledge of the clinical features/natural history, functional prognosis, and secondary conditions of disorders resulting in childhood disability to develop an effective physiatric care plan<br><br>Identifies secondary conditions and functional issues for adults aging with congenital or childhood onset disabilities | Discusses controversial and emerging therapies and investigational interventions for children with disabilities<br><br>Provides expert consultation in transition from pediatric care to adult care |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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| MK 9. Spasticity | | | | | |
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| **Has not Achieved Level 1** | **Level 1** | **Level 2** | **Level 3** | **Level 4 (Graduation Target)** | **Level 5 (Aspirational)** |
| | Demonstrates knowledge of spasticity as a complication of some neurologic disorders | Differentiates spasticity from other types of increased muscle tone<br><br>Describes the effect (positive and negative) of spasticity on positioning, function, and quality of life<br><br>Explains the role of therapy interventions on spasticity<br><br>Describes the pharmacology of oral and injectable medications for spasticity, including mechanism of action, indications, contra-indications, and side effects | Distinguishes the functional impact of spasticity from that of co-existing impairments (e.g., sensory loss, motor weakness, motor planning, and other physical deficits)<br><br>Explains the clinical and rehabilitation decision making process regarding intrathecal medication for spasticity | Integrates knowledge of therapy, medications, injections, and surgical interventions into a longitudinal, comprehensive spasticity treatment plan to maximize patient functional outcome<br><br>Outlines the indications, strengths, and limitations of guidance strategies for spasticity injections (e.g., anatomic, ultrasound, EMG, or electrical stimulation) | Demonstrates knowledge of controversial and emerging therapies and investigational interventions<br><br>Serves as an expert resource to the multidisciplinary team regarding spasticity management |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

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