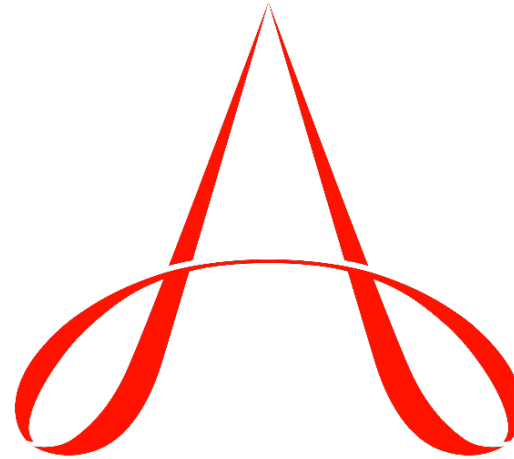




Neuromuscular Medicine Milestones

The Accreditation Council for Graduate Medical Education



ACGME

Implementation Date: July 2022
Second Revision: January 2022
First Revision: July 2014

Neuromuscular Medicine Milestones

The Milestones are designed only for use in evaluation of fellows in the context of their participation in ACGME-accredited fellowship programs. The Milestones provide a framework for the assessment of the development of the fellow in key dimensions of the elements of physician competence 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.

Neuromuscular Medicine Milestones

Work Group

Miguel Chuquilin, MD	Laurie Gutmann, MD
Daniel DiCapua, MD	Nasheed Jamal, MD
Christopher Doughty, MD	Hani Kushlaf, MD
Laura Edgar, EdD, CAE	Janice Massey, MD
Karissa Gable, MD	Lawrence Robison, MD
Christopher Geiger, DO	Komal Sawlani, MD

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

American Board of Physical Medicine and Rehabilitation
American Board of Psychiatry and Neurology
Review Committee for Neurology
Review Committee for Physical Medicine and Rehabilitation

Understanding Milestone Levels and Reporting

This document presents the Milestones, which programs use in a semi-annual review of fellow performance, and then report to the ACGME. Milestones are knowledge, skills, attitudes, and other attributes for each of the ACGME Competencies organized in a developmental framework. The narrative descriptions are targets for fellow performance throughout their educational program.

Milestones are arranged into levels. Tracking from Level 1 to Level 5 is synonymous with moving from novice to expert fellow in the specialty or subspecialty. For each reporting period, the Clinical Competency Committee will review the completed evaluations to select the milestone levels that best describe each learner's current performance, abilities, and attributes for each subcompetency.

These levels *do not* correspond with post-graduate year of education. Depending on previous experience, a junior fellow may achieve higher levels early in his/her educational program just as a senior fellow may be at a lower level later in his/her educational program. There is no predetermined timing for a fellow to attain any particular level. Fellows may also regress in achievement of their milestones. This may happen for many reasons, such as over scoring in a previous review, a disjointed experience in a particular procedure, or a significant act by the fellow.

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

Additional Notes

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

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

A Supplemental Guide is also available to provide the intent of each subcompetency, examples for each level, assessment methods or tools, and other available resources. The Supplemental Guide, like examples contained within the Milestones, is designed only to assist the program director and Clinical Competency Committee, and is not meant to demonstrate any required element or outcome.

Supplemental Guides and other resources are available on the Milestones page of each specialty section of the ACGME website. On www.acgme.org, choose the applicable specialty under the “Specialties” menu, then select the “Milestones” link in the lower navigation bar.

The diagram below presents an example set of milestones for one sub-competency in the same format as the ACGME Report Worksheet. For each reporting period, a fellow's performance on the milestones for each sub-competency will be indicated by selecting the level of milestones that best describes that fellow's performance in relation to those milestones.

Systems-Based Practice 1: Patient Safety				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common patient safety events	Identifies system factors that lead to patient safety events	Participates in analysis of patient safety events (simulated or actual)	Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems (actual or simulated)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Discloses patient safety events to patients and families (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Completed Level 1 <input type="checkbox"/>

Selecting a response box in the middle of a level implies that milestones in that level and in lower levels have been substantially demonstrated.

Selecting a response box on the line in between levels indicates that milestones in lower levels have been substantially demonstrated as well as **some** milestones in the higher level(s).

Patient Care 1: History				
Level 1	Level 2	Level 3	Level 4	Level 5
Obtains a relevant and organized history that identifies a neuromuscular condition, including review of medical records and family history	Obtains a relevant and organized history, incorporating subtle verbal and non-verbal cues, and includes functional assessment	Consistently obtains a history sufficient to evaluate, diagnose, and treat neuromuscular disorders, including collateral information and systemic manifestations	Consistently obtains a history that includes patient-reported outcomes and identifies a neuromuscular condition within a complicated medical history	Serves as a role model to other learners for history taking regarding neuromuscular diagnosis and management
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				
				Not Yet Completed Level 1 <input type="checkbox"/>
				Not Yet Assessable <input type="checkbox"/>

Patient Care 2: Neuromuscular Examination				
Level 1	Level 2	Level 3	Level 4	Level 5
Performs a relevant general, neurologic, and neuromuscular exam	Performs a relevant general, neurologic, and neuromuscular exam, accurately incorporating additional appropriate maneuvers	Consistently performs an examination sufficient to evaluate and narrow the diagnostic evaluation for common neuromuscular disorders	Consistently performs a nuanced examination that identifies subtle findings and patterns sufficient to evaluate and narrow the diagnostic evaluation for uncommon neuromuscular disorders	Serves as a role model to other learners for performing an examination regarding neuromuscular diagnoses and management
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:			Not Yet Completed Level 1	<input type="checkbox"/>
			Not Yet Assessable	<input type="checkbox"/>

Patient Care 3: Management and Treatment				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies treatment options for neuromuscular disorders	Discusses risks and benefits and monitoring plan of treatment options with patients and patients' families	Monitors treatment, and recognizes and manages complications of immunomodulating/ immunosuppressive and genetic therapies	Considers clinical trials for patient management	Applies sophisticated knowledge of treatment subtleties and controversies
Identifies symptoms and complications associated with neuromuscular disorders (pain, joint contractures, fatigue, mood disorders, etc.)	Employs first-line interventions for symptoms and complications associated with neuromuscular disorders	Employs second-line interventions for symptoms and complications associated with neuromuscular disorders and coordinates care with other health care practitioners	Independently adapts interventions for symptoms and complications associated with neuromuscular disorders based on patient response	
Describes assistive technologies and their indications	Recognizes the indications for basic orthotics and mobility aids for patients with neuromuscular disorders	Prescribes basic orthotics and mobility aids for patients with neuromuscular disorders	Integrates recommendations for patient needs for a full range of assistive technologies based on impairments, considering barriers, contraindications, comorbidities, and input from other professionals	Demonstrates sophisticated knowledge and serves as resource for orthotics, mobility aids, and rehabilitation for neuromuscular disorders
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Yet Completed Level 1 <input type="checkbox"/>
				Not Yet Assessable <input type="checkbox"/>

Patient Care 4: Nerve Conduction Studies				
Level 1	Level 2	Level 3	Level 4	Level 5
Applies knowledge of peripheral nerve anatomy in the performance of nerve conduction studies	Performs and interprets common motor and sensory nerve conduction studies, and late response studies (e.g., F-waves, H-reflexes)	Performs and interprets neuromuscular junction testing (e.g., repetitive stimulation study)	Performs and interprets uncommon motor and sensory nerve conduction studies, including cranial nerve testing (e.g., blink reflex, facial nerve)	Performs and interprets special nerve conduction studies procedures (e.g., near nerve testing, phrenic nerve testing)
Formulates basic nerve conduction studies plan for specific, common clinical presentations	Identifies technical artifacts in the interpretation of nerve conduction studies	Recognizes common anatomical variants in the interpretation of nerve conduction studies	Recognizes performance quality and inconsistencies of nerve conduction studies	Recognizes uncommon anatomical variants in the interpretation of nerve conduction studies
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				
				Not Yet Completed Level 1 <input type="checkbox"/>
				Not Yet Assessable <input type="checkbox"/>

Patient Care 5: Electromyography (EMG)				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Applies knowledge of nerve and muscle anatomy in the study design and performance of EMG (e.g., muscle localization)</p> <p>Explains the procedure to patients and patients' families</p> <p>Describes nerve physiology and instrumentation involved in electromyography</p>	<p>Performs EMG of commonly sampled muscles</p> <p>Monitors patient comfort during the procedure</p> <p>Distinguishes normal from abnormal electrodiagnostic findings with guidance and recognizes artifacts</p>	<p>Performs EMG of uncommonly sampled muscles</p> <p>Modifies the procedure for challenging or high-risk patients</p> <p>Independently interprets abnormal electrodiagnostic findings and troubleshoots artifacts</p>	<p>Performs EMG of cranial nerve innervated muscles (e.g., tongue)</p> <p>Proactively organizes and efficiently completes procedure to optimize diagnostic yield in challenging or high-risk patients</p> <p>Interprets uncommon EMG findings and patterns of unique disorders and modifies the study accordingly</p>	<p>Performs and interprets special EMG procedures (e.g., single fiber EMG, quantitative EMG studies)</p> <p>Performs and interprets EMG of rarely sampled muscles (e.g., diaphragm)</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p> <p style="text-align: right;">Not Yet Assessable <input type="checkbox"/></p>				

Patient Care 6: Anterior Horn Cell Disorders				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Recognizes signs and symptoms that should prompt consideration of anterior horn cell disorders</p> <p>Recognizes when electrodiagnostic and serologic testing is indicated</p> <p>Recognizes common anterior horn cell disorders and complications</p>	<p>Diagnoses anterior horn cell disorders</p> <p>Incorporates results of electrodiagnostic and serologic testing in context of clinical presentation</p> <p>Manages anterior horn cell disorders and complications, with direct supervision</p>	<p>Distinguishes anterior horn cell disorders from mimics</p> <p>Orders and incorporates additional testing, including routine genetic testing, to distinguish anterior horn cell disorder from mimics and co-existing disease</p> <p>Manages anterior horn cell disorders and complications, with indirect supervision</p>	<p>Diagnoses atypical anterior horn cell disorders, including within the context of other neurodegenerative conditions</p> <p>Continuously evaluates accuracy of anterior horn cell diagnosis</p> <p>Independently manages common anterior horn cell disorders and complications with the interdisciplinary team, as needed</p>	<p>Engages in scholarly activity (e.g., teaching, research) in anterior horn cell disorders</p> <p>Independently manages atypical anterior horn cell disorders and complications with the interdisciplinary team</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:			Not Yet Completed Level 1	<input type="checkbox"/>
			Not Yet Assessable	<input type="checkbox"/>

Patient Care 7: Root, Plexus, and Peripheral Nerve Disorders				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Recognizes common presentations of nerve root, plexus, and peripheral nerve disorders</p> <p>Recognizes when electrodiagnostic, serologic and genetic testing is indicated</p> <p>Recognizes common peripheral nerve disorder emergencies (e.g., Guillain Barre Syndrome)</p>	<p>Diagnoses common nerve root, plexus, and peripheral nerve disorders</p> <p>Incorporates results of electrodiagnostic, serologic and genetic testing in context of clinical presentation</p> <p>Manages patients with common nerve root, plexus, and peripheral nerve disorders (e.g., Guillain Barre Syndrome) under direct supervision</p>	<p>Diagnoses uncommon nerve root, plexus, and peripheral nerve disorders</p> <p>Recognizes indications for special diagnostic techniques (e.g., nerve biopsy, skin biopsy, ultrasound, quantitative sensory testing)</p> <p>Manages patients with uncommon nerve root, plexus, and peripheral nerve disorders under indirect supervision</p>	<p>Continuously evaluates the accuracy of the diagnosis of nerve root, plexus, and peripheral nerve disorders</p> <p>Relates the results of special diagnostic testing (e.g., nerve biopsy) to the context of the clinical presentation</p> <p>Independently manages common nerve root, plexus, and peripheral nerve disorders and complications with the interdisciplinary team as needed</p>	<p>Engages in scholarly activity (e.g., teaching, research) on nerve root, plexus, and peripheral nerve disorders</p> <p>Independently manages uncommon nerve root, plexus, and peripheral nerve disorders and complications with the interdisciplinary team as needed</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p> <p style="text-align: right;">Not Yet Assessable <input type="checkbox"/></p>				

Patient Care 8: Neuromuscular Junction Disorders				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Diagnoses common neuromuscular junction disorders</p> <p>Recognizes when electrodiagnostic and serologic testing are indicated</p> <p>Recognizes common neuromuscular junction emergencies (e.g., myasthenic crisis)</p>	<p>Diagnoses uncommon neuromuscular junction disorders</p> <p>Incorporates results of electrodiagnostic and serologic testing in context of clinical presentation (e.g., false positives, false negatives)</p> <p>Manages common neuromuscular junction emergencies</p>	<p>Diagnoses neuromuscular junction disorders, even when the presentation is atypical</p> <p>Recognizes indications for special diagnostic techniques (e.g., single fiber EMG); tracks disease activity with formal scales and patient reported outcome measures (PROMs)</p> <p>Manages uncommon neuromuscular junction disorders</p>	<p>Distinguishes worsening of neuromuscular junction disorders from complications of treatment or new disorders</p> <p>Recognizes when genetic testing is indicated (e.g., congenital myasthenic syndromes)</p> <p>Manages patients with refractory neuromuscular junction disorders</p>	<p>Engages in scholarly activity (e.g., teaching, research) in neuromuscular junction disorders</p> <p>Manages patient with neuromuscular junction disorders and complex co-morbidities</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p> <p style="text-align: right;">Not Yet Assessable <input type="checkbox"/></p>				

Patient Care 9: Myopathies				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Recognizes common presentations of myopathies</p> <p>Recognizes when electrodiagnostic and serologic testing is indicated</p> <p>Prescribes basic orthotics, mobility aids, and therapies (e.g., physical therapy [PT], occupational therapy [OT], speech therapy [ST]) as indicated</p>	<p>Diagnoses common myopathies</p> <p>Incorporates results of electrodiagnostic and serologic testing in the context of the clinical presentation (e.g., false negatives and false positives); recognizes when genetic testing or muscle biopsy is indicated</p> <p>Manages patients with common myopathies; provides collaborative care with relevant medical specialties</p>	<p>Diagnoses uncommon myopathies</p> <p>Interprets genetic testing and/or findings on muscle biopsy in the context of the clinical presentation</p> <p>Recognizes medical complications of myopathies, including respiratory failure, cardiac disease, and ocular manifestations</p>	<p>Distinguishes worsening of myopathies from complications of treatment or new disorders</p> <p>Discusses the implications of variants of uncertain significance on genetic testing and interprets in the context of the clinical presentation</p> <p>Manages patients with uncommon myopathies, including genetic counseling and goals of care for those with inherited myopathies</p>	<p>Engages in scholarly activity (e.g., teaching, research) on myopathies</p> <p>Manages patients with myopathies and complex co-morbidities</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p> <p style="text-align: right;">Not Yet Assessable <input type="checkbox"/></p>				

Patient Care 10: Digital Health				
Level 1	Level 2	Level 3	Level 4	Level 5
Expands use of the electronic health record (EHR) to include and reconcile secondary data sources in patient care activities	Utilizes EHR capabilities and identifies use for digital or remote monitoring data in patient care activities	Utilizes EHR capabilities to manage and monitor patients, including through patient-reported outcomes	Uses the EHR to communicate complex care plans with patients and other providers	Leads improvements in the EHR specific for neuromuscular patients
Initiates and carries out a telehealth visit	Identifies which clinical situations can be managed through a telehealth visit	Demonstrates the ability to perform a neuromuscular history and examination in a telehealth visit	Uses telehealth visits for complex patient management	Innovates and leads in the use of emerging technologies for care of neuromuscular patients
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;"> Not Yet Completed Level 1 <input type="checkbox"/> Not Yet Assessable <input type="checkbox"/> </div>				

Medical Knowledge 1: Localization				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Localizes neuromuscular lesions to general components</p> <p>Describes basic anatomy of the peripheral nervous system</p>	<p>Accurately localizes neuromuscular lesions to specific components</p> <p>Recognizes localization to the brachial plexus as opposed to radicular or focal peripheral nerve process</p>	<p>Accurately localizes neuromuscular lesions and recognizes pitfalls in localization, as well as potential sources of error</p> <p>Recognizes precise localization to elements of the brachial plexus (e.g., cord, trunk) and distinguishes it from radicular or focal peripheral nerve process</p>	<p>Efficiently and accurately localizes neuromuscular lesions, including focal and multifocal peripheral nerve lesions and generalized neuromuscular and autonomic disorders</p> <p>Recognizes anatomic variants (e.g., prefixed plexus, Riche-Cannieu anastomosis)</p>	<p>Consistently demonstrates sophisticated and detailed localization of neuromuscular lesions by combining clinical, neurophysiologic, imaging and laboratory testing using efficient approaches</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p>			<p>Not Yet Completed Level 1 <input type="checkbox"/></p> <p>Not Yet Assessable <input type="checkbox"/></p>	

Medical Knowledge 2: Formulation				
Level 1	Level 2	Level 3	Level 4	Level 5
Summarizes key elements of history and exam and generates a relevant differential diagnosis	Synthesizes information to focus and prioritize diagnostic possibilities for neuromuscular disorders	Efficiently synthesizes information to focus and prioritize diagnostic possibilities	Continuously reconsiders diagnostic possibilities in response to new clinical information	Effectively educates others about neuromuscular diagnostic reasoning
Correlates under guidance the clinical presentation with basic anatomy but not with pathophysiology of nerve and muscle disorders	Correlates under guidance the clinical presentation with basic anatomy and pathophysiology of neuromuscular disorders	Independently correlates the clinical presentation with detailed anatomy and pathophysiology of neuromuscular disorders	Demonstrates sophisticated and detailed knowledge of neuromuscular disorders	Discriminates coexisting multiple neurologic and neuromuscular diagnoses
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:			Not Yet Completed Level 1	<input type="checkbox"/>
			Not Yet Assessable	<input type="checkbox"/>

Medical Knowledge 3: Diagnostic Investigation				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Summarizes key elements of history and exam findings and generates a broad differential diagnosis</p> <p>Recognizes common indications for serologic and electrodiagnostic testing</p>	<p>Identifies the first steps in working up common neuromuscular disorders</p> <p>Sequences laboratory testing, electrodiagnostic testing, imaging, and genetic testing for common neuromuscular disorders</p>	<p>Efficiently synthesizes information to focus and prioritize diagnostic possibilities</p> <p>Integrates the use of nerve and muscle imaging (e.g., ultrasound, magnetic resonance imaging [MRI]) into the diagnostic process; recognizes the indications for nerve and muscle biopsy and genetic testing</p>	<p>Continuously reconsiders diagnostic possibilities in response to new clinical information</p> <p>Reconciles conflicting data from diagnostic tests and the clinical presentation; efficiently provides genetic testing suited to the clinical situation (e.g., single gene versus panel testing versus whole exome sequencing)</p>	<p>Effectively educates others about neuromuscular diagnostic reasoning</p> <p>Engages in scholarly activity on diagnostic testing for neuromuscular disorders</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p> <p style="text-align: right;">Not Yet Assessable <input type="checkbox"/></p>				

Medical Knowledge 4: Muscle and Nerve Pathology				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates the ability to identify specific stains and differentiate tissue types, as well as knowledge of normal and abnormal histopathology of peripheral nerve and skeletal muscle	Demonstrates knowledge of tissue fixation and utility of specific stains, and recognizes common pathologic findings and technical artifacts in nerve and muscle biopsy preparations	Demonstrates advanced knowledge of abnormal histopathology of peripheral nerve and skeletal muscle, and correlates the nerve and muscle biopsy findings with the clinical presentation	Recognizes uncommon pathologic findings in nerve and muscle preparations	Independently interprets nerve and muscle biopsy specimens and generates a report
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="float: right; text-align: right;"> Not Yet Completed Level 1 <input type="checkbox"/> Not Yet Assessable <input type="checkbox"/> </div>				

Systems-Based Practice 1: Patient Safety and Quality Improvement				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of commonly reported patient safety events	Identifies system factors that lead to patient safety events	Participates in analysis of patient safety events	Conducts analysis of patient safety events and offers error prevention strategies	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems	Participates in disclosure of patient safety events to patients and patients' families	Discloses patient safety events to patients and patients' families	Role models or mentors others in the disclosure of patient safety events
Demonstrates knowledge of basic quality improvement methodologies and metrics	Describes local quality improvement initiatives	Participates in local quality improvement initiatives	Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project	Creates, implements, and assesses quality improvement initiatives at the institutional or community level
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Systems-Based Practice 2: System Navigation for Patient-Centered Care				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Demonstrates knowledge of care coordination</p> <p>Performs safe and effective transitions of care/hand-offs in routine clinical situations</p>	<p>Coordinates care of patients in routine clinical situations effectively using the roles of interprofessional team members</p> <p>Performs safe and effective transitions of care/hand-offs in complex clinical situations</p>	<p>Coordinates care of patients in complex clinical situations, effectively using the roles of interprofessional team members</p> <p>Supervises transitions of care/hand-offs by other team members</p>	<p>Role models effective coordination of patient-centered care among different disciplines and specialties</p> <p>Role models safe and effective transitions of care/hand-offs within and across health care delivery systems, including outpatient settings</p>	<p>Demonstrates skills in developing and implementing new inter-professional care models</p> <p>Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p>				

Systems-Based Practice 3: Population Health and Advocacy				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of population and community health needs	Identifies specific population and community health needs for the local population and community	Effectively uses local resources to meet the needs of a patient population and community	Adapts approach to patient care to provide for the needs of specific populations	Leads innovations in adapting patient care for populations and communities with specific health care needs
Describes social determinants of health and their roles in neuromuscular disease	Identifies behavioral and social interventions that can improve neuromuscular health	Effectively advocates for interventions that can improve social determinants of health	Implements social and behavioral changes for patients and patients' families that improve health, such as exercise and diet	Leads community-based interventions that improve population health
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Systems-Based Practice 4: Physician Role in Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Describes how components of a complex health care system are interrelated, and how this impacts patient care</p> <p>Describes basic health care payment systems, (e.g., government, private, public, uninsured care) and practice models</p> <p>Identifies basic knowledge domains for effective transition to practice (e.g., information technology, legal, billing and coding, financial, personnel)</p>	<p>Identifies how the health care system limits access to care, creates financial burdens to patients, and leads to poor care</p> <p>Delivers patient-centered care that considers each patient’s medical needs, as well as the payment model</p> <p>Demonstrates use of information technology required for medical practice (e.g., electronic health record, documentation required for billing and coding)</p>	<p>Engages with components of the complex health care system to provide efficient and effective patient care for everyone who needs it, regardless of finances, social status, or insurance coverage</p> <p>Engages with patients in shared decision making, informed by each patient’s payment model</p> <p>Consistently demonstrates timely and accurate documentation, including coding and billing requirements</p>	<p>Leads teams to provide efficient and effective patient care by managing components of the complex health care system while advocating for systems changes that address these complexities</p> <p>Uses available resources to promote optimal patient care (e.g., community resources, patient assistance resources) considering each patient’s payment model</p> <p>Implements changes in individual practice patterns in response to professional requirements and in preparation for practice</p>	<p>Leads advocacy efforts for systems change that enhances high-value, efficient, and effective patient care that is accessible to all who need it</p> <p>Participates in health policy advocacy activities to promote better access and quality of care</p> <p>Educates others to prepare them for transition to practice</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p>				

Practice-Based Learning and Improvement 1: Evidence-Based and -Informed Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates how to access and use available evidence, and to incorporate patient preferences and values to the care of a routine patient	Articulates clinical questions and elicits patient preferences and values to guide evidence-based care	Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients	Critically appraises and applies evidence, even in the face of uncertainty, and interprets conflicting evidence to guide care tailored to the individual patient	Coaches others to critically appraise and apply evidence for complex patients, and/or participates in the development of guidelines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Accepts responsibility for personal and professional development by establishing goals</p> <p>Identifies the factors that contribute to gap(s) between expectations and actual performance</p> <p>Actively seeks opportunities to improve</p>	<p>Demonstrates openness to performance data (feedback and other input) to inform goals</p> <p>Analyzes and reflects on the factors that contribute to gap(s) between expectations and actual performance</p> <p>Designs and implements a learning plan, with prompting</p>	<p>Seeks performance data sporadically, with adaptability and humility</p> <p>Institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance</p> <p>Independently creates and implements a learning plan</p>	<p>Seeks performance data consistently</p> <p>Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance</p> <p>Uses performance data to measure the effectiveness of the learning plan, and, when necessary, improves it</p>	<p>Role models seeking performance data with adaptability and humility</p> <p>Coaches others on reflective practice</p> <p>Facilitates the design and implementation of learning plans for others</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p>				

Professionalism 1: Professional Behavior and Ethical Principles				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies and describes potential triggers for professionalism lapses and how to report them	Demonstrates insight into professional behavior in routine situations and takes responsibility for one's own behavior	Demonstrates professional behavior in complex or stressful situations	Intervenes to prevent professionalism lapses in oneself and others	Coaches others when their behavior fails to meet professional expectations
Demonstrates knowledge of ethical principles related to patient care	Analyzes straightforward situations using ethical principles	Analyzes complex situations using ethical principles	Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed	Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Professionalism 2: Accountability/Conscientiousness				
Level 1	Level 2	Level 3	Level 4	Level 5
Takes responsibility for failure to complete tasks and responsibilities, identifies potential contributing factors, and describes strategies for ensuring timely task completion in the future	Performs tasks and responsibilities in a timely manner, recognizing situations that may impact one's own ability to do so	Proactively implements strategies to ensure that the needs of patients, teams, and systems are met	Recognizes situations in which one's own behavior may impact others' ability to complete tasks and responsibilities in a timely manner	Develops or implements strategies to improve system-wide problems to improve ability for oneself and others to complete tasks and responsibilities in a timely fashion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Professionalism 3: Well-Being				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes status of personal and professional well-being, with assistance	Identifies resources to improve well-being	Independently recognizes status of personal and professional well-being	Independently develops a strategy to optimize personal and professional well-being	Coaches others when emotional responses or limitations in knowledge/skills do not meet professional expectations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

This subcompetency is not intended to evaluate a fellow's well-being, but to ensure each fellow has the fundamental knowledge of factors that impact well-being, the mechanisms by which those factors impact well-being, and available resources and tools to improve well-being.

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Uses language and non-verbal behavior to demonstrate respect and establish rapport</p> <p>Identifies the need to individualize communication strategies based on the patient's/patient's family's expectations and understanding</p>	<p>Establishes an effective patient-physician relationship in straightforward encounters using active listening and clear language</p> <p>Communicates compassionately with the patient/patient's family to clarify expectations and verify understanding of the clinical situation</p>	<p>Establishes an effective patient-physician relationship in challenging patient encounters</p> <p>Communicates medical information in the context of the patient's/patient's family's values, uncertainty, and conflict</p>	<p>Easily establishes effective patient-physician relationships, with attention to the patient's/patient's family's concerns and context, regardless of complexity</p> <p>Uses shared decision making to align the patient's/patient's family's values, goals, and preferences with treatment options</p>	<p>Mentors others in situational awareness and critical self-reflection to consistently develop positive therapeutic relationships</p> <p>Role models shared decision making in the context of the patient's/patient's family's values, uncertainty, and conflict</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p> <p style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></p>				

Interpersonal and Communication Skills 2: Barrier and Bias Mitigation				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies common barriers to effective patient care (e.g., language, disability)	Identifies complex barriers to effective patient care (e.g., health literacy)	Recognizes biases and mitigates barriers to optimize patient care, when prompted	Recognizes biases and proactively mitigates barriers to optimize patient care	Mentors others on recognition of bias and mitigation of barriers to optimize patient care
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Interpersonal and Communication Skills 3: Interprofessional and Team Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the need for and professionally requests a consultation	Clearly and concisely formulates a consultation request	Confirms understanding of a consultant's recommendations	Integrates recommendations from different members of the health care team to optimize patient care	Role models and facilitates flexible communication strategies that demonstrate the value of input from all health care team members, resolving conflict when needed Fosters a culture of open communication and effective teamwork within the interdisciplinary team
Recognizes the role of a neuromuscular consultant	Professionally accepts a consultation request	Clearly and concisely responds to a consultation request	Solicits and communicates feedback to other members of the health care team	
Understands and respects the role and function of interdisciplinary team members	Solicits insights from and uses language that demonstrates that one values all interdisciplinary team members	Integrates contributions from interdisciplinary team members into the care plan	Prevents and mediates conflict and distress among interdisciplinary team members	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				

Interpersonal and Communication Skills 4: Communication within Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
Documents accurate and up-to-date patient information	Demonstrates diagnostic reasoning through organized and timely notes	Communicates the diagnostic and therapeutic reasoning	Demonstrates concise, organized written and verbal communication, including anticipatory guidance	Guides departmental or institutional communication policies and procedures
Recognizes the basic structure of the nerve conduction study report	Creates a report for a nerve conduction study in conjunction with EMG	Provides a detailed report of common and uncommon nerve conduction study findings and neuromuscular junction testing	Provides a detailed report of common and uncommon nerve conduction findings and cranial nerve testing	
Communicates in a way that safeguards patient information	Communicates through appropriate channels as required by institutional policy	Selects optimal mode of communication based on clinical context	Demonstrates clear, concise communication with referring providers for continuity of care	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: <div style="text-align: right;">Not Yet Completed Level 1 <input type="checkbox"/></div>				