



UCNS Neonatal Neurocritical Care Milestones

For definitions and instructions to complete milestones, please visit the [ACGME website](#).

- UCNS Common Milestones for Interpersonal & Communication Skills, Practice-based Learning and Improvement, Professionalism, and Systems-based Practice, adopted from the ACGME Clinical Neurophysiology milestones

1. Systems thinking, including cost- and risk-effective practice – Systems-based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Identifies and describes the roles of other team members. Identifies obvious or critical causes of error. 	<ul style="list-style-type: none"> Minimizes unnecessary diagnostic and therapeutic tests. Advocates for cost-conscious utilization of resources. Reports system errors that contribute to patient safety. 	<ul style="list-style-type: none"> Practices cost-effective patient care. Advocates for safe patient care and optimal patient care systems. Participates in quality assurance or improvement activities to improve patient safety. 	<ul style="list-style-type: none"> Leads quality assurance or improvement activities. Initiates care delivery models to mitigate barriers to cost-effective and high-quality care. 	<ul style="list-style-type: none"> Mentors others in quality improvement activities. Mentors others in developing care delivery models.
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Comments:			Not Applicable <input type="checkbox"/>	

2. Self-directed learning – Practice-based Learning and Improvement				
<ul style="list-style-type: none"> Identify strengths, deficiencies, and limits in one’s knowledge and expertise Set learning and improvement goals Identify and perform appropriate learning activities 				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Engages in self-reflection when asked to do so. Responsive to feedback when offered. 	<ul style="list-style-type: none"> Welcomes unsolicited feedback. Engages in self-reflection routinely. Receptive to feedback from multiple sources. 	<ul style="list-style-type: none"> Recognizes sub-optimal performance as an opportunity for self-improvement. Consistently incorporates feedback in learning plan. 	<ul style="list-style-type: none"> Demonstrates proficiency in reconciling disparate or conflicting feedback. Continuously self-reflects and incorporates self-improvement opportunities to maximize practice improvement. Seeks 360-degree feedback. 	<ul style="list-style-type: none"> Mentors others on self-reflection. Mentors others on the process of self-improvement. Provides constructive feedback to others in a non-judgmental manner.
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Comments: Not Applicable <input type="checkbox"/>				

3. Compassion, integrity, accountability, and respect for self and others – Professionalism				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Demonstrates compassion, sensitivity and responsiveness to patients and families. • Demonstrates non-discriminatory behavior in all interactions including diverse and vulnerable populations. • Consistently demonstrates professional behavior, including, boundaries, dress, and timeliness in all activities. 	<ul style="list-style-type: none"> • Demonstrates appropriate steps to address impairment in self. • Demonstrates compassionate practice of medicine, even in context of disagreement with patient beliefs. • Incorporates patients' socio-cultural needs and beliefs into patient care. • Advocates for quality patient care. 	<ul style="list-style-type: none"> • Advocates to reduce healthcare disparities. • Demonstrates appropriate steps to address impairment in colleagues. • Committed to managing conflicts of interest with sponsors and/or for-profit industries. 	<ul style="list-style-type: none"> • Mentors others in the compassionate practice of medicine, even in context of disagreement with patient beliefs. • Mentors others in sensitivity and responsiveness to diverse and vulnerable populations. 	<ul style="list-style-type: none"> • Engages in scholarly activity regarding professionalism in the subspecialty. • Advocates for quality patient care at a regional or national level. • Advocates to reduce healthcare disparities at a regional or national level.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Applicable <input type="checkbox"/>

4. Knowledge about, respect for, and adherence to the ethical principles relevant to the practice of medicine, remembering in particular that responsiveness to patients that supersedes self-interest is an essential aspect of medical practice – Professionalism				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Demonstrates ability to discuss common ethical principles and identify ethical issues in practice. 	<ul style="list-style-type: none"> • Consistently displays responsiveness to patients that supersedes self-interest. 	<ul style="list-style-type: none"> • Analyzes and manages ethical issues in straightforward clinical situations. 	<ul style="list-style-type: none"> • Analyzes and manages ethical issues in complex clinical situations. 	<ul style="list-style-type: none"> • Demonstrates leadership and mentorship in applying ethical principles. • Active participant on hospital ethics committee.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Applicable <input type="checkbox"/>

5. Relationship development, teamwork, and managing conflict – Interpersonal and Communication Skills				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Develops a therapeutic relationship with patients in uncomplicated situations. • Actively participates in team-based care. 	<ul style="list-style-type: none"> • Manages simple patient/ family related conflicts. • Engages patients in shared decision making. • Consistently demonstrates respect for all team members. 	<ul style="list-style-type: none"> • Manages conflict in complex situations. • Uses easy-to-understand language in all phases of communication (avoids “medicalese” and considers the health literacy of the recipient). • Consistently demonstrates respect for healthcare providers from other departments. 	<ul style="list-style-type: none"> • Manages conflict across specialties and systems of care. • Leads team-based patient care activities. 	<ul style="list-style-type: none"> • Engages in scholarly activity regarding teamwork and conflict management. • Is proficient in crucial conversations.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Applicable <input type="checkbox"/>

6. Demonstrates communication skills which result in effective information exchange and collaboration with patients, their families and other healthcare professionals – Interpersonal and Communication Skills				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Completes documentation in a timely fashion. • Describes how to communicate respectfully with persons of different socioeconomic and cultural backgrounds. • Follows through on patient communications. • Forwards notes to appropriate providers. 	<ul style="list-style-type: none"> • Educates patients about their diseases and management including risks and benefits of treatment options. • Effectively communicates the results of a neurologic consultation in a timely manner. • Effectively communicates with other healthcare professionals. 	<ul style="list-style-type: none"> • Effectively gathers information from collateral sources when necessary. • Demonstrates synthesis, formulation, and thought process in documentation. • Demonstrates effective non-verbal communication skills. 	<ul style="list-style-type: none"> • Mentors colleagues in timely, accurate and efficient documentation. • Consistently uses teach back in patient encounters. • Models cross-cultural communication and establishes therapeutic relationships with persons of diverse socioeconomic and cultural backgrounds. 	<ul style="list-style-type: none"> • Consistently receives highest tenth percentile patient/family feedback on communication skills on standardized validated assessments. • Develops patient education materials related to the subspecialty. • Engages in scholarly activity regarding interpersonal communication in the subspecialty.
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Comments: Not Applicable <input type="checkbox"/>				

7. Research and other scholarly activity				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Reads subspecialty-scientific literature. 	<ul style="list-style-type: none"> Critically evaluates and presents results of published research in the subspecialty at journal club or in a similar setting. 	<ul style="list-style-type: none"> Writes a case report, review article, or chapter suitable for publication in the subspecialty, or Presents an abstract or lecture in field of the subspecialty at a professional meeting. 	<ul style="list-style-type: none"> Designs and initiates original research in field of the subspecialty. Develops an educational curriculum in the subspecialty. 	<ul style="list-style-type: none"> Publishes original peer-reviewed research. Serves as a research mentor.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Applicable <input type="checkbox"/>

8. Gathers and synthesizes essential and accurate information to define each patient's clinical problem(s). (Neonatal Neurocritical Care) – Patient Care 1				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Collects basic relevant historical data. • Performs a developmentally appropriate neonatal exam. • Uses multiple sources to generate differential diagnoses. 	<ul style="list-style-type: none"> • Consistently acquires accurate and relevant history, including relevant maternal, fetal as well as neonatal course. • Consistently performs developmentally appropriate neurologic exams. • Consistently recognizes patient's primary neurologic problem and develops differential diagnoses based on examination/localization. 	<ul style="list-style-type: none"> • Acquires accurate histories in an efficient, prioritized, and hypothesis-driven fashion. • Performs accurate neonatal neurologic exams that are targeted to the patient's problems, appropriately localizing pathology based on examination. • Uses and synthesizes collected data to define a patient's central neurologic problem(s) and generates a prioritized differential diagnosis and problem list. 	<ul style="list-style-type: none"> • Obtains relevant historical subtleties, including information that informs the differential diagnosis. • Identifies subtle or unusual physical exam findings, include use of dysmorphology evaluation to help guide genetic testing. • Utilizes/interprets standardized neonatal neurologic examination tools. • Efficiently utilizes all sources of secondary data to inform differential diagnosis. • Effectively uses history and physical examination skills to minimize the need for further diagnostic testing. 	<ul style="list-style-type: none"> • Role-models and teaches the effective use of history and physical examination skills to minimize the need for further diagnostic testing.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: Not Applicable <input type="checkbox"/>				
9. Develops and achieves comprehensive recommendations for each patient. (Neonatal Neurocritical Care) – Patient Care 2				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Recommendations are basic but generally appropriate and accurate. Reacts appropriately to situations that require urgent or emergency consultation / management Will frequently seek additional guidance. 	<ul style="list-style-type: none"> Develops recommendations based on multiple sources and synthesis of complex data. Often recognizes subtle situations that require urgent or emergency consultation / management. Identifies when additional guidance is needed and appropriate. 	<ul style="list-style-type: none"> Consistently synthesizes complex care plans that reflect all pertinent data. Consistently recognizes situations requiring urgent or emergency evaluation / management. Consistently seeks additional guidance and/or consultation for complex cases as appropriate. 	<ul style="list-style-type: none"> Appropriately modifies care plans based on patient’s clinical course, additional data, and cost-effectiveness principles. Recognizes disease presentations that deviate from common patterns and require complex decision-making, incorporating diagnostic uncertainty. 	<ul style="list-style-type: none"> Role-models and teaches complex and patient-centered care. Develops customized recommendations for the most complex patients, incorporating diagnostic uncertainty and cost-effectiveness principles.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: Not Applicable <input type="checkbox"/>				

10. Manages patients with progressive responsibility and independence. (Neonatal Neurocritical Care) – Patient Care 3				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Requires direct supervision. • Initiates fundamental management of patients who require urgent or emergency evaluation. • Assumes conditional responsibility for patient management decisions. 	<ul style="list-style-type: none"> • At times requires direct supervision. • Conditionally able to temporarily manage problems or common neonatal neurology presentations. 	<ul style="list-style-type: none"> • Requires indirect supervision. • Provides appropriate care in the inpatient and outpatient settings under indirect supervision. • Beginning to demonstrate ability to simultaneously manage multiple infants with acute neurologic concerns. • Can independently supervise care provided by other members of a physician-led team. 	<ul style="list-style-type: none"> • Able to manage multiple neonates in the critical care units with a broad spectrum of neurologic clinical presentations, including undifferentiated syndromes. • Seeks additional guidance and/or subspecialty consultation as appropriate. • Effectively supervises the team in all appropriate clinical settings. 	<ul style="list-style-type: none"> • Effectively identifies and manages unusual, rare, or complex neurologic disorders.
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Comments: Not Applicable <input type="checkbox"/>				

11. Demonstrates skill in bedside interpretation of Neonatal Neurocritical Care-specific procedural data. (Procedural, Neonatal Neurocritical Care) – Patient Care 4				
Required Procedures include: LP result interpretation, bedside conventional EEG, aEEG; Transcranial Dopplers, Basic Intracranial Neuromonitoring including but, not limited to, NIRS, Neonatal NCV/EMG, Neuroimaging (including, but not limited to head ultrasound, CT, MRI, angiography)				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Begins to interpret procedural data under supervision. • Recognizes cases in which procedures are unwarranted or unsafe. 	<ul style="list-style-type: none"> • Possesses adequate skill to interpret core data with supervision. • Conditionally recognizes critical monitoring data and initiates appropriate basic therapy. 	<ul style="list-style-type: none"> • Possesses basic skill for the interpretation of common neonatal neurocritical specific procedural data with appropriate supervision. • Generally recognizes appropriate patients, indications for, and associated risks of procedures. 	<ul style="list-style-type: none"> • Consistently demonstrates skill to successfully and safely interpret procedural data. • Consistently recognizes appropriate patients, indications, and associated risks of procedures and assess them in context of potential value of procedural data. • Integrates procedures and/or testing results with clinical findings in the evaluation and management of patients. • Recognizes procedures and/or testing results that indicate high-risk state or adverse prognosis. • Recognizes artifacts and normal developmental variants. 	<ul style="list-style-type: none"> • Demonstrates skill to independently interpret complex procedural data. • Demonstrates expertise to teach and supervise others in the interpretation of procedural data.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not Applicable <input type="checkbox"/>

12. Provides consultative care in both inpatient and outpatient settings (Neonatal Neurocritical Care) – Patient Care 5				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Responds to questions or concerns of others when acting as a consultant or utilizing consultant services. • Demonstrates collaboration and professionalism when acting as a consultant. • Identifies the need to request appropriate additional consultations. 	<ul style="list-style-type: none"> • Conditionally manages patients as a consultant to other physicians/health care teams. • Identifies competing recommendations made on complex critically ill patients. 	<ul style="list-style-type: none"> • Provides consultation services for patients/families with neurologic concerns in a variety of settings. • Recognizes need to request appropriate subspecialty consultations. • Asks meaningful clinical questions that guide the input of subspecialty consultants both in the ICU setting as well as after discharge. • Recognizes neurological comorbidities in critically ill patients. 	<ul style="list-style-type: none"> • Provides consultation services for patients with basic and complex clinical neurologic problems, including in the fetal period. • Demonstrates the ability to appropriately request additional subspecialty consultative services. • Appropriately integrates recommendations from other consultants in order to effectively manage patient neurologic care. • Provides appropriate recommendations to consultants seeking input regarding neurological concerns in critically ill neonates and infants. 	<ul style="list-style-type: none"> • Provides consultation services for patients and families with very complex neurologic problems requiring extensive risk assessment across multiple settings (fetal consultations, intensive care units, outpatient follow up clinics). • Collaborative model of recommendations to coordinate among multiple consultants.
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Comments: Not Applicable <input type="checkbox"/>				

13. Possesses Clinical knowledge – Medical Knowledge 1				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Possesses fundamental medical knowledge, with culturally appropriate modifiers, required to initiate consultive care. 	<ul style="list-style-type: none"> • Possesses sufficient scientific, socioeconomic, and behavioral knowledge required to provide neonatal neurologic care in a family-centered manner. 	<ul style="list-style-type: none"> • Possesses the scientific, socioeconomic, and behavioral knowledge required to provide care for common neonatal neurology presentations, including urgent and emergent care. 	<ul style="list-style-type: none"> • Possesses the scientific, socioeconomic, and behavioral knowledge required to evaluate and provide care for complex neonatal neurologic conditions. 	<ul style="list-style-type: none"> • Possesses the scientific, socioeconomic, and behavioral knowledge required to successfully diagnose and treat medically uncommon, ambiguous, and complex neonatal neurologic conditions in a family centered manner.
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Comments:				Not Applicable <input type="checkbox"/>

14. Knowledge of diagnostic testing and procedures – Medical Knowledge 2				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Possesses foundational knowledge to apply diagnostic testing and procedures to patient care. 	<ul style="list-style-type: none"> • Conditionally interprets basic diagnostic tests accurately. 	<ul style="list-style-type: none"> • Consistently interprets basic diagnostic tests accurately. • Fully understands the rationale and risks associated with common procedures. 	<ul style="list-style-type: none"> • Interprets complex diagnostic tests accurately while accounting for limitations and biases. • Knows the indications for, and limitations of, diagnostic testing and procedures. • Teaches the rationale and risks associated with common procedures and anticipates potential complications of procedures. 	<ul style="list-style-type: none"> • Anticipates and accounts for subtle nuances of interpreting diagnostic tests and procedures. • Pursues knowledge of new and emerging diagnostic tests and procedures and clinical care guidelines.
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Comments: Not Applicable <input type="checkbox"/>				

15. Scholarship – Medical Knowledge 3				
Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> • Has foundational understanding of scientific inquiry and scholarly productivity. • Beginning to develop the skills necessary to effectively disseminate knowledge in the subspecialty. 	<ul style="list-style-type: none"> • Performs a literature search using relevant scholarly sources to identify pertinent articles. • Is aware of basic statistical concepts, conditionally identifies methodological flaws. • Communicates fundamental details of scientific work, including his or her own scholarly work; working towards consistent presentational skills. • Begins to engage in critical thinking regarding clinical practice, quality improvement, patient safety, education, or research. 	<ul style="list-style-type: none"> • Identifies areas worthy of scholarly investigation and formulates a plan under supervision of a mentor. • Critically reads scientific literature and identifies major methodological flaws and inconsistencies within or between publications. • Understands and is able to apply basic statistical concepts, and can identify potential analytic methods for data or problem assessment. • Effectively presents at journal club, quality improvement meetings, clinical conferences, and/or is able to effectively describe and discuss his or her own scholarly work or research. 	<ul style="list-style-type: none"> • Formulates ideas worthy of scholarly investigation. • Collaborates with other investigators to design and complete a project related to clinical practice, quality improvement, patient safety, education, or research. • Critiques specialized scientific literature effectively. • Dissects a problem into its many component parts and identifies strategies for solving. • Uses analytical methods of the field effectively. • Presents scholarly activity at local or regional meetings, and/or submits an abstract summarizing scholarly work to regional/state/ national meetings, and/or publishes non-peer-reviewed manuscript(s) (reviews, book chapters). 	<ul style="list-style-type: none"> • Independently formulates novel and important ideas worthy of scholarly investigation. • Leads a scholarly project advancing clinical practice, quality improvement, patient safety, education, or research. • Obtains independent research funding. • Critiques specialized scientific literature at a level consistent with participation in peer review. • Employs optimal statistical techniques. • Teaches analytic methods in chosen field to peers and others. • Effectively presents scholarly work at national and international meetings. • Publishes peer-reviewed manuscript(s) containing scholarly work (clinical practice, quality improvement, patient safety, education, or research).
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Comments:				Not Applicable <input type="checkbox"/>