

UNITED COUNCIL
FOR
NEUROLOGIC
SUBSPECIALTIES

UCNS Autonomic Disorders 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 | | | | |
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| <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. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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. Autonomic History and Exam – Patient Care | | | | |
|--|--|---|--|--|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| <ul style="list-style-type: none"> Obtains a concise medical history relevant to autonomic disorders. Obtains a basic and accurate cardiopulmonary and neurological examination. | <ul style="list-style-type: none"> Obtains a more detailed and relevant autonomic history. Utilizes electronic medical record to formulate history without distracting from the patient interview. | <ul style="list-style-type: none"> Obtains a complete, relevant and organized autonomic history synthesizing data and integrating testing results with clinical data. Reliably obtains information on all body systems potentially affected by autonomic disorders. | <ul style="list-style-type: none"> Acquires accurate histories in an efficient, prioritized, and hypothesis-driven fashion. Performs accurate physical exam targeted to the patient's problems. Uses and synthesizes data to define a patient's central clinical problem and generates a differential diagnosis and problem list. Integrates testing results with clinical findings. | <ul style="list-style-type: none"> Obtains relevant historical subtleties, including sensitive information that informs the differential diagnosis. Capable of high-level interpretation of diagnostic tests and procedures. |
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| Comments: | | | | Not Applicable <input type="checkbox"/> |

| 9. Autonomic Testing – Patient Care | | | | |
|---|--|---|--|--|
| 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. • Can assist a trained technologist with the technical aspect of autonomic testing. • Recognizes factors influencing testing. • Understands and is able to explain to patients testing procedure and potential symptoms that may occur. | <ul style="list-style-type: none"> • Recognizes normal and abnormal findings obtained during testing. • Interprets basic diagnostic testing accurately, taking into account potential technical or individual non-autonomic issues. • Begins to integrate the findings of testing into patient care decisions. • Applies ethical principles of informed procedural consent when appropriate. | <ul style="list-style-type: none"> • Consistently interprets basic diagnostic tests accurately. • Fully understands the rationale and risks of testing. • Consistently recognizes appropriate indications for testing and associated risks. • Generally integrates procedures and/or testing results with clinical features in the evaluation and management of patients. • Accurately performs autonomic test procedures in a safe and effective manner with minimal supervision. | <ul style="list-style-type: none"> • Knows the indications for, and limitations of, diagnostic testing and procedures. • Consistently integrates procedures and/or testing results with clinical findings in the interpretation of testing results. • Easily recognizes artifacts and normal variants. • Interprets complex diagnostic tests accurately. • Understands and interprets results from less commonly used autonomic tests (or variations in technique). | <ul style="list-style-type: none"> • Anticipates and accounts for nuances of diagnostic interpretation. • Pursues knowledge of new and emerging diagnostic tests and procedures. • Demonstrates skill to independently perform and interpret complex or less common testing procedures. • Demonstrates expertise to teach and supervise others in the performance of non-invasive autonomic testing. |
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| Comments: Not Applicable <input type="checkbox"/> | | | | |

| 10. Therapeutics – Patient Care | | | | |
|--|---|---|--|--|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| <ul style="list-style-type: none"> • Differentiates between symptomatic therapies and disease-modifying therapies for autonomic disorders. • Prioritizes symptoms to target for therapy. | <ul style="list-style-type: none"> • Understands the concept of pharmacological and non-pharmacological therapies. • Identifies symptoms that may be responsive to therapy. | <ul style="list-style-type: none"> • Describes non-pharmacological approaches for common autonomic symptoms (i.e., orthostatic hypotension, constipation, syncope). • Identifies approved pharmacotherapies for autonomic conditions. | <ul style="list-style-type: none"> • Understands the dosing, efficacy, and side effects of commonly used drugs. • Able to counsel patients about risks and benefits of initiating therapy. • Develops a comprehensive treatment plan for patients with autonomic disorders including pharmacological and non-pharmacological interventions. | <ul style="list-style-type: none"> • Demonstrates competence to describe an approach to immunotherapies for immune-mediated autonomic disorders. • Describes emerging symptomatic and disease-modifying therapies. |
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| Comments: | | | | Not Applicable <input type="checkbox"/> |

| 11. Autonomic Physiology and Pharmacology – Medical Knowledge | | | | |
|---|---|--|--|--|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| <ul style="list-style-type: none"> Describes the anatomical organization of the central autonomic control centers and peripheral parasympathetic, sympathetic and enteric nervous systems. | <ul style="list-style-type: none"> Understands basic physiology of autonomic function. Understands basics of cardiovascular, respiratory, gastrointestinal, pupillary, sudomotor, and other autonomic reflexes. | <ul style="list-style-type: none"> Demonstrates knowledge of peripheral autonomic neurotransmission, including distribution of neurotransmitters and their receptors, receptor subtypes, and target organ effects. Shows advanced knowledge of normal autonomic physiology and autonomic reflexes. | <ul style="list-style-type: none"> Understands autonomic pharmacology, including pharmacokinetics and pharmacodynamics of common drugs affecting the ANS. Describes autonomic physiology associated with complex phenomena such as neurocardiogenic syncope, GI motility and thermoregulation. | <ul style="list-style-type: none"> Demonstrates advanced knowledge of autonomic physiology including off-target effects of medications, uncommon side effects and drug interactions. Demonstrates advanced knowledge of autonomic pharmacology, including pharmacokinetics and pharmacodynamics of most drugs affecting the ANS. |
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| Comments: Not Applicable <input type="checkbox"/> | | | | |

| 12. Pathophysiology of Autonomic Disease States – Medical Knowledge | | | | |
|---|--|---|--|--|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| <ul style="list-style-type: none"> • Describes the various categories of disease that can affect autonomic function. | <ul style="list-style-type: none"> • Gives specific examples of autonomic disorders of different etiologies (e.g., genetic, neurodegenerative, metabolic, immune-mediated). • Understands the consequences and manifestations of baroreflex dysfunction. • Differentiates neurogenic from non-neurogenic orthostatic hypotension. | <ul style="list-style-type: none"> • Describes the core clinical features of different neurodegenerative autonomic disorder. • Describes common etiologies of autonomic and small fiber neuropathies (including diabetes and amyloidosis). • Describes common etiologies of syncope and orthostatic intolerance. • Describes differences between disorders of central versus peripheral autonomic nervous system. | <ul style="list-style-type: none"> • Describes the pathological and pathophysiological differences between different autonomic disorders. • Describes uncommon causes of autonomic neuropathy (such as autoimmune and paraneoplastic). • Understands nuances of the manifestations of autonomic dysfunction in diabetes. • Describes various pathophysiological mechanisms that may contribute to postural tachycardia syndrome. | <ul style="list-style-type: none"> • Detailed understanding of alpha-synuclein biology. • Detailed understanding of familial dysautonomia and other inherited autonomic disorders. • Participates in research on or teaching in pathophysiology of autonomic disorders. |
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| Comments: | | | | Not Applicable <input type="checkbox"/> |

| 13. Cardiology, Gastroenterology, Urology & Other diagnostics – Medical Knowledge | | | | |
|---|---|--|--|--|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| <ul style="list-style-type: none"> • Possesses foundational knowledge of cardiac, GI & GU autonomic anatomy and physiology. • Possesses basic knowledge of cardiac, GI & GU pharmacology. | <ul style="list-style-type: none"> • Understands the concepts of standard GI & GU testing and interprets test results • Understands basic concepts of cardiac electrophysiological testing and interventions. • Possesses basic knowledge to explain results of cardiac, GI, and GU testing to patients. • Recognizes appropriate patients for referral, indications for testing, and associated risks. | <ul style="list-style-type: none"> • Consistently interprets GI & GU basic diagnostic tests accurately with limited assistance and understands the concepts of test performance. • Understands use and interpretation of other diagnostics such as Holter monitoring, ambulatory BP, echocardiography, gastric motility studies, urodynamic testing, and plasma catecholamines. • Generally integrates procedures and/or testing results with clinical features in the evaluation and management of patients. | <ul style="list-style-type: none"> • Knows the indications for, and limitations of, GI & GU testing and less commonly used procedures. • Consistently integrates procedures and/or testing results with clinical findings in the evaluation and management of patients. • Understands indications and interpretation of advanced diagnostic testing (e.g., autoantibodies, advanced imaging and tissue biopsy). | <ul style="list-style-type: none"> • Demonstrates sophisticated knowledge of diagnostic methods, interpretation, limitations and controversies, including new and emerging diagnostic procedures. • Demonstrates ability to work in multidisciplinary care teams with other specialists. • Understands indications and implications of genetic testing. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Comments: Not Applicable <input type="checkbox"/> | | | | |