

UNITED COUNCIL
FOR
NEUROLOGIC
SUBSPECIALTIES

**Autonomic Disorders
Program Requirements**

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Autonomic Disorders Program Requirements

The common program requirements are standards required of accredited programs in all UCNS subspecialties. They are shown in **bold** typeface below. Requirements in regular typeface are defined by each subspecialty.

I. Introduction

- A. Autonomic Disorders is a medical subspecialty defined by competency in: 1) understanding the health and disease of the autonomic nervous system (ANS), 2) performance and interpretation of clinical and laboratory evaluation of the ANS, and 3) diagnosis and care of those who suffer from autonomic dysfunctions. Autonomic dysfunctions may present as primary or secondary dysfunction of the ANS, and patients with dysautonomia may present for care to multiple specialty care areas including, but not limited to, primary care, general internal medicine, cardiology, endocrinology, gastroenterology, urology, and general neurology. Clinical autonomic disorder specialists may themselves be cardiologists, neurologists, endocrinologists, gastroenterologists, or nephrologists and provide consultation to these service areas or deliver all levels of care commensurate with their training.
- B. Autonomic Disorders programs provide an organized post-residency educational experience for physicians already trained in a core discipline such as cardiology, endocrinology, gastroenterology, nephrology, or neurology who wish to seek additional competence in Autonomic Disorders.

II. Institutional Support

There are three types of institutions that may comprise a program: 1) the sponsoring institution, which assumes ultimate responsibility for the program and is required of all programs, 2) the primary institution, which is the primary clinical training site and may or may not be the sponsoring institution, and 3) the participating institution, which provides required experience that cannot be obtained at the primary or sponsoring institutions. The institutions that sponsor and participate in fellowship training of Autonomic Disorders must be committed to excellence in both medical education and patient care.

A. Sponsoring Institution

1. **The sponsoring institution must be accredited by the Accreditation Council for Graduate Medical Education (ACGME), and meet the current ACGME Institutional Requirements. This responsibility extends to fellow assignments at all participating institutions. The sponsoring institution must be appropriately organized for the conduct of graduate medical education (GME) in a scholarly environment and must be committed to excellence in both medical education and patient care.**
2. **A letter demonstrating the sponsoring institution's responsibility for the program must be submitted. Such a letter must:**
 - a. confirm sponsorship of the training program,
 - b. state the sponsoring institution's commitment to training and education, and
 - c. be signed by the designated institution official of the institution as defined by ACGME.

B. Primary Institution

1. **Assignments at the primary institution must be of sufficient duration to ensure a quality educational experience and must provide sufficient opportunity for continuity of care. The primary institution must demonstrate the ability to promote the overall program goals and support educational and peer activities.**

2. **A letter from the appropriate department chair(s) at the primary institution must be submitted. Such a letter must:**
 - a. **confirm the relationship of the primary institution to the program,**
 - b. **state the primary institution's commitment to training and education, and**
 - c. **list specific activities that will be undertaken, supported, and supervised at the primary institution.**

C. Participating Institutions

1. **Assignments to participating institutions must be based on a clear educational rationale, must have clearly stated learning objectives and activities, and should provide resources not otherwise available to the program. When multiple participating institutions are used, there should be assurance of the continuity of the educational experience.**
2. **Assignments at participating institutions must be of sufficient duration to ensure a quality educational experience and should provide sufficient opportunity for continuity of care. All participating institutions must demonstrate the ability to promote the overall program goals and support educational and peer activities.**
3. **If a participating institution is used, a participating institution letter must be submitted. Such a letter must:**
 - a. **confirm the relationship of the participating institution to the program,**
 - b. **state the participating institution's commitment to training and education,**
 - c. **list specific activities that will be undertaken, supported, and supervised at the participating institution, and**
 - d. **be signed by the department chair of the participating institution.**
4. **Participation by any institution providing more than one month of training in Autonomic Disorders must be approved by UCNS.**

III. Facilities and Resources

A. Each program must demonstrate that it possesses the facilities and resources necessary to support a quality educational experience.

1. **Fellowship training in Autonomic Disorders must be affiliated with a core-area discipline, as defined in I.B.1., with a full range of patient services.**
2. **The program must be able to provide full-spectrum testing of the ANS, defined as:**
 - a. **at least two tests of cardiovascular sympathetic function,**
 - b. **at least two tests of parasympathetic testing, and**
 - c. **at least one type of sudomotor autonomic testing.**
3. **Adequate meeting rooms, classrooms, and research space to support service, teaching, research, and educational activities must be available.**
4. **The Autonomic Disorders program must be integrated into a full-service clinical program providing evaluation of patients with many types of disorders.**
5. **The Autonomic Disorders program must provide the fellow with a sufficient variety and volume of patients with Autonomic Disorders both in the clinical and laboratory during the training period to guarantee an educational experience with adequate exposure to the major categories of autonomic disorders.**

IV. Faculty

The faculty of accredited programs consists of: 1) the program director, 2) core faculty, and 3) other faculty. Core faculty are physicians who oversee clinical training in the subspecialty. The program director is considered a core faculty member for the purpose of determining the fellow complement. Other faculty are physicians and other professionals determined by the Subspecialty to be necessary in order to deliver the program curriculum. The program director and faculty are responsible for the general administration of the program and for the establishment and maintenance of a stable

educational environment. Adequate durations of appointments for the program director and core faculty members are essential for maintaining such an environment. The duration of appointment for the program director must provide for continuity of leadership.

A. Program Director Qualifications

1. There must be a single program director responsible for the program. The person designated with this authority is accountable for the operation of the program and he or she should be a member of the faculty or medical staff of the primary institution.
2. The program director must:
 - a. possess requisite specialty expertise as well as documented educational and administrative abilities and experience in his or her field,
 - b. be certified in neurology or internal medicine by ABMS or RCPSC specialty,
 - c. possess a current, valid, unrestricted, and unqualified license to practice medicine in the state or province of the program,
 - d. be certified, and maintain certification, in Autonomic Disorders by the UCNS¹, and
 - e. devote sufficient time to the program to ensure achievement of the educational goals and objectives.
 - f. The program director must be an experienced, active clinician.

B. Program Director Responsibilities

1. The program director's ultimate responsibility is the successful conduct of the fellowship program. The program director must:
 - a. oversee and organize the activities of the educational program in all institutions participating in the program including selecting and supervising the faculty and other program personnel at each participating institution, and monitoring appropriate fellow supervision and evaluation at all participating institutions,
 - b. prepare an accurate statistical and narrative description of the program as requested by the UCNS as well as update the program and fellow records annually,
 - c. ensure the implementation of fair policies and procedures, as established by the sponsoring institution, to address fellow grievances and due process in compliance with the institutional requirements,
 - d. monitor fellow stress, including mental or emotional conditions inhibiting performance or learning, and drug- or alcohol-related dysfunction,
 - e. obtain prior approval of the UCNS for changes in the program that may significantly alter the educational experience of the fellows. Upon review of a proposal for a program change, the UCNS may determine that additional oversight or a site visit is necessary. Examples of changes that must be reported include:
 - 1) change in the program director,
 - 2) the addition or deletion of sponsoring, primary, or participating institution(s),
 - 3) change in the number of approved fellows, and
 - 4) change in the format of the educational program
 - f. ensure that adequate resources, faculty support, and a stable educational environment are present that ensure the proper education of the Autonomic

¹ This requirement will not be imposed until after the expiration of the subspecialty's practice track.

- Disorder fellow, including, but not limited to, provision of conferences, educational didactic programs, and other educational activities of the program,
- g. make certain that fellows adequately meet expectations of professional conduct, educational goals, and other responsibilities as specified in this document,
- h. oversee the recruitment and appointment process for applicants, including compliance with appropriate credentialing policies and procedures,
- i. monitor the progress of each Autonomic Disorder fellow, including the maintenance of training record that documents completion of all required components of the program, as well as the evaluations of performance by supervisors and teachers, and
- j. maintain all training records, including those related to appointment, departmental process regarding due process, sickness and other leaves, call responsibilities, and vacation time.

C. Core Faculty Qualifications

1. **Each core faculty member must:**
 - a. **possess requisite specialty expertise as well as documented educational and administrative abilities and experience in his or her field,**
 - b. **be currently certified in neurology or internal medicine by ABMS or RCPSC,**
 - c. **possess a current, valid, unrestricted, and unqualified license to practice medicine in the state or province of the program, and**
 - d. **be appointed in good standing to the faculty of an institution participating in the program.**
2. **The core faculty must include at least one neurologist. The neurologist may also be the program director.**

D. Core Faculty Responsibilities

1. **There must be a sufficient number of core faculty members with documented qualifications at each institution participating in the program to instruct and adequately supervise all fellows in the program.**
2. **Core Faculty members must:**
 - a. **devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities,**
 - b. **evaluate the fellows whom they supervise in a timely manner,**
 - c. **demonstrate a strong interest in the education of fellows, demonstrate competence in both clinical care and teaching abilities, support the goals and objectives of the educational program, and demonstrate commitment to their own continuing medical education by participating in scholarly activities,**
 - d. review periodic written evaluation of the faculty member by the fellow(s) and discuss the evaluation with the program director, and
 - e. assist the program director, as requested and feasible, in preparing timely, accurate program information forms and related materials in preparation for review.

E. Other Faculty and Program Personnel

1. Non-physician faculty must be appropriately credentialed in their field and possess appropriate institutional appointments.
2. Other program personnel must include:
 - a. The supervisor and technologists (at least one person) involved in autonomic laboratory testing will play a major role in the technical and laboratory training of the fellow. Staff should have appropriate experience and qualifications as determined by the laboratory director, who collaborates closely with the program

director (if these are not the same person). Staff job description must include the teaching of other technical staff and teaching and training of residents and fellows. Staff must be encouraged to participate in research and support projects headed up by the fellows.

- b. Nurse practitioners and registered nurses, to the extent utilized by the program in seeing patients, must also share their experience with fellows, particularly in the practical issues encountered by patients with Autonomic Disorders, and in optimal methods of patient education.
- c. Practice managers and billing staff must spend scheduled time in educating fellows on the requirements of billing and accurate CPT and ICD-9 code utilization, including feedback to fellows regarding the accuracy of their coding and billing practices. Cost-revenue information should also be shared.

V. Fellow Appointment

A. Duration of Training

1. Fellowship training in Autonomic Disorders must be comprised of at least 12 months (and not exceed 36 months) of education subsequent to satisfactory completion of an ACGME- or RCPSC-accredited residency. Training in Autonomic Disorders that occurred during residency training will not be counted toward fellowship.
2. The required program duration must be disclosed to the fellow prior to the fellow entering the program.

B. Eligibility Criteria

1. **The fellow must possess a current valid and unrestricted license to practice medicine in the United States or Canada or its territories.**
2. **The fellow must be a graduate of a residency program in adult neurology, pediatric neurology, or internal medicine that is accredited by the ACGME or the Royal College of Physicians and Surgeons of Canada (RCPSC).**
3. **The fellow must be board certified or eligible for certification in a neurology, child neurology, or internal medicine by ABMS or RCPSC.**

C. Minimum Number of Fellows and Fellow Complement

1. **The minimum number of fellows to be trained is one.**
2. **The fellow complement is the number of fellows allowed to be enrolled in the program. There must be at least 2 core faculty members for every 1 fellow.**

VI. Educational Program

A. Role of the Program Director and Faculty

1. **The program director, with assistance of the faculty, is responsible for developing and implementing the academic and clinical program of fellow education by:**
 - a. **preparing a written statement to be distributed to fellows and faculty and reviewed with fellows prior to assignment, which outlines the educational goals and objectives of the program with respect to the knowledge, skills, and other attributes to be demonstrated by fellows for the entire fellowship and on each major assignment and each level of the program,**
 - b. **preparing and implementing a comprehensive, well-organized, and effective curriculum, both academic and clinical, which includes the presentation of core specialty knowledge supplemented by the addition of current information, and**
 - c. **providing fellows with direct experience in progressive responsibility for patient management.**

B. Competencies

1. A fellowship program must require that its fellows obtain competence in the AGCME Competencies to the level expected of a new practitioner in the subspecialty. Programs must define the specific and unique learning objectives in the area including the knowledge, skills, behaviors, and attitudes required and provide educational experiences as needed in order for their fellows to demonstrate the following:
 - a. *patient care* that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health,
 - b. *medical knowledge* about established and evolving biomedical, clinical, and basic sciences, as well as the application of this knowledge to patient care,
 - c. *practice-based learning and improvement* that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care,
 - d. *interpersonal and communication skills* that result in effective information exchange and collaboration with patients, their families, and other health professionals,
 - e. *professionalism*, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population, and
 - f. *systems-based practice*, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.
2. Programs must be structured so that fellows are involved in the study of Autonomic Disorders throughout the year. The educational program must include didactic instruction and practical experience in the content areas defined by the *Autonomic Disorders Core Curriculum*. A brief summary of the areas of required competencies include:
 - a. Knowledge of advanced anatomy, physiology, pathophysiology, biochemistry, and pharmacology of the ANS and drugs affecting the ANS.
 - b. Expertise in clinical and laboratory diagnosis of the full spectrum of central and peripheral ANS disorders.
 - c. Expertise in non-pharmacological and pharmacological management of ANS disorders.

C. Didactic Components

1. Programs must emphasize:
 - a. the scientific rationale for evaluation and treatment of disease of the ANS,
 - b. hands-on experience in the performance of autonomic testing,
 - c. opportunity for clinical evaluation and management of patients with autonomic symptoms, and
 - d. all the core elements of the *Autonomic Disorders Core Curriculum* must be addressed.
2. Upon completion of the program, the participant should have acquired the following fund of knowledge and skills:
 - a. anatomical organization of the central autonomic control centers, the parasympathetic, sympathetic and enteric nervous systems, and visceral afferents,
 - b. basics of cardiovascular, respiratory, gastrointestinal, pupillary, sudomotor, and other autonomic reflexes,
 - c. basis of autonomic neurotransmission, including neurotransmitter synthesis, distribution, and release mechanisms, receptor subtypes, effects on their target organs,

- d. autonomic pharmacology, including pharmacokinetics and pharmacodynamics of drugs affecting the ANS,
- e. clinical and laboratory diagnosis of central and peripheral disorders of autonomic function, including neurodegenerative disorders associated with generalized autonomic failure, peripheral autonomic neuropathies, focal or target-specific autonomic syndromes, and effects of drugs,
- f. indications, techniques, and limitations of noninvasive recordings of arterial pressure, heart rate and sudomotor output, including theoretical and practical knowledge of the equipment used to obtain those recordings,
- g. performance, supervision, and interpretation of tests of: orthostatic tolerance (heart rate and blood pressure responses to standing or passive head-up tilt); cardiovagal function (including heart rate response to deep breathing); Valsalva maneuver; and sudomotor function,
- h. interpretation of the results of the humoral, microneurography, and power spectral analysis evaluation of autonomic function,
- i. interpretation of tests of pupillary function, gastrointestinal motility, urodynamics, penile erection, and thermography,
- j. expertise in nonpharmacological and pharmacological management of orthostatic intolerance syndromes (including orthostatic hypotension, syncope, and postural tachycardia), gastrointestinal dysmotility, neurogenic bladder, and sudomotor disorders, and
- k. knowledge of the complex pathophysiological mechanisms involved in neuropathic pain syndromes (including complex regional pain syndromes), and application and limitations of autonomic testing to help determine the contribution of sympathetic outflow to pain and to vasomotor and sudomotor components of the syndrome.

D. Clinical Components

1. **Approximately 80% of the fellow's time must be spent in supervised activities related to the care of patients with dysautonomias or related conditions. Clinical experiences may include all training relevant to Autonomic Disorders, including lectures and individual didactic experiences and journal clubs emphasizing clinical matters. Programs with flexible fellowship terms must assure that equivalent time is spent in clinical training.**
2. Patient care responsibilities must ensure a balance between patient care and education that achieves for the fellow an optimal educational experience consistent with the best medical care. Patient care responsibilities should include inpatient, outpatient, consultation, and clinical laboratory experiences.
3. Fellows must have instruction and practical experience in obtaining an orderly and detailed history of autonomic symptoms from the patient, in conducting a thorough autonomic and neurological examination, and in organizing and recording data. The training must include the indications for, and limitations of, clinical autonomic tests and their interpretation. Fellows must learn the basic principles of pharmacologic and non-pharmacologic management of Autonomic Disorders.
4. Fellows must be exposed to, and assume, supervised clinical management for at least 100 new patients with complaints related to the ANS. Face-to-face mentorship by the faculty is expected at the time of the initial patient encounter. The range of the patients must include a variety of acute and chronic dysautonomias presented in both outpatients and inpatient settings.
 - a. Fellows must maintain an ongoing log of new patients seen, listed according to diagnosis.
5. The fellow must participate in performance and interpretation of clinical autonomic laboratory testing of at least 100 patients.

6. Competence must be demonstrated in the following areas:
 - a. knowledge,
 - b. tests and test interpretation,
 - c. treatment and evidence-based practice, and
 - d. disease management and long-term care of chronic patients.

E. Scholarly Activities

1. **The responsibility for establishing and maintaining an environment of inquiry and scholarship rests with the faculty. Both faculty and fellows must participate actively in some form of scholarly activity. Scholarship is defined as activities unrelated to the specific care of patients, which includes scholarship pertaining to research, writing review papers, giving research-based lectures and participating in research-oriented journal clubs.**
2. **There must be adequate resources for scholarly activities for faculty and fellows.**
3. The program must provide a scholarly environment related to Autonomic Disorders as evidenced by participation in a spectrum of professional activities within the institution as well as within local, state, and national associations.
4. Fellows must be trained to evaluate and critique clinical research. Coursework or lectures on research methodology is recommended.

F. Duty Hours, Working Environment, and On-Call Activities

Providing fellows with a sound academic and clinical education must be carefully planned and balanced with concerns for patient safety and fellow well-being. Each program must ensure that the learning objectives of the program are not compromised by excessive reliance on fellows to fulfill service obligations. Didactic and clinical education defined by the program requirements must have priority in the allotment of a fellow's time and energy.

1. **Supervision of Fellows**
 - a. **All patient care required by the program requirements must be supervised by qualified faculty. The program director must ensure, direct, and document adequate supervision of fellows at all times. Fellows must be provided with rapid, reliable systems for communicating with supervising faculty.**
 - b. **Faculty schedules must be structured to provide fellows with continuous supervision and consultation.**
 - c. **Faculty and fellows must be educated to recognize the signs of fatigue and adopt and apply policies to prevent and counteract the potential negative effects.**
2. **Duty hours assignments must recognize that the faculty and fellows collectively have responsibility for the safety and welfare of patients. Fellow duty hours and work environment must comply with the current ACGME program requirements.**
3. **The objective of on-call activities is to provide fellows with continuity of patient care experiences throughout a 24-hour period. *In-house call* is defined as those duty hours beyond the normal work day when fellows are required to be immediately available in the assigned institution. Fellow on-call activities must be consistent with the current ACGME program requirements.**

VII. Evaluation

A. Fellow Evaluation

1. **Fellow evaluation by faculty must:**
 - a. **take place at least semi-annually and areas of weakness and strength must be communicated to the fellow,**

- b. **records must be maintained documenting fellow experience and performance, and**
 - c. **include the fellow's demonstration of learning objectives and mastery of the core competencies (see VI.B).**
2. **The summary and final evaluation of the fellow must be prepared by the program director and should reflect the input of faculty.**
 3. There must be regular written evaluation after each rotation or at least quarterly of the fellow(s) by faculty and results must be discussed with the fellow(s). Evaluation of performance must include each clinical component and must follow the standard format approved by the institution or in compliance with ACGME recommendations for postdoctoral medical training. The evaluation must be reviewed by both the faculty member and fellow. Permanent record of evaluation must be maintained and accessible to the fellow and other authorized personnel.
 4. A final written summative evaluation of performance must be provided by the program director at the conclusion of the training program, signed by both the fellow and program director. The program director must discuss the written performance evaluation with each fellow. This evaluation must:
 - a. document the fellow's performance during the final period of training,
 - b. verify that the fellow has demonstrated sufficient competence in the clinical evaluation of patients with Autonomic Disorders and in the interpretation of clinical laboratory tests of autonomic function and dysfunction to enter practice without direct supervision, and
 - c. document the satisfactory completion of all program requirements.
 5. The program director must meet quarterly with the fellow to discuss performance, clinical practice, and quality assurance issues as applicable to the actual training experience and clinical practice of the fellow, and produce written minutes reflecting the proceedings of such meetings that will be kept confidential and protected.

B. Faculty Evaluation

1. **The performance of faculty must be evaluated by the program director on an annual basis.**
2. **The evaluations must include a review of their teaching abilities, commitment to the educational program, clinical knowledge, and scholarly activities.**
3. **These evaluations must include annual written evaluations by fellows.**

C. Program Evaluation

1. **The effectiveness of a program must be evaluated in a systematic manner. In particular, the quality of the curriculum and the extent to which the educational goals have been met must be assessed.**
2. **Confidential written evaluations by fellows must be utilized in this process.** Fellows must submit written evaluations of the program at least twice per year.
3. **Performance by fellows on the UCNS certification exam may also be used to measure the quality of the training program.**