



ACGME International

**Advanced Specialty Program Requirements for
Graduate Medical Education in
Endocrinology, Diabetes, and Metabolism
(Internal Medicine)**

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(Internal Medicine)**

Int. Introduction

Background and Intent: Programs must achieve and maintain Foundational Accreditation according to the ACGME-I Foundational Requirements prior to receiving Advanced Specialty Accreditation. The Advanced Specialty Requirements noted below complement the ACGME-I Foundational Requirements. For each section, the Advanced Specialty Requirements should be considered together with the Foundational Requirements.

Int. I. Definition and Scope of the Specialty

~~The medical specialty of endocrinology, diabetes, and metabolism focuses on the endocrine system, its diseases, and hormones; the integration of developmental events, such as proliferation, growth, and differentiation, including histogenesis and organogenesis; and the coordination of metabolism, respiration, excretion, movement, reproduction, and sensory perception, which depend on chemical cues and substances synthesized and secreted by specialized cells.~~ endocrinology, diabetes, and metabolism is the subspecialty of internal medicine that focuses on the diagnosis and care of disorders of the endocrine (glandular) system and associated metabolic dysfunction.

Int. II. Duration of Education

Int. II.A. The educational program in endocrinology, diabetes, and metabolism must be 24 or 36 months in length.

I. Institution

I.A. Sponsoring Institution

I.A.1. A fellowship in endocrinology, diabetes and metabolism must function as an integral part of ACGME-I-accredited residency in internal medicine.

I.B. Participating Sites

See International Foundational Requirements, Section I.B

II. Program Personnel and Resources

II.A. Program Director

See International Foundational Requirements, Section II.A.

II.B. Faculty

See International Foundational Requirements, Section II.B..

II.C. Other Program Personnel

II.C.1. There must be a close working relationship with dietary and/or nutrition services, as well as with specialists in general surgery, nephrology, neurological surgery, neurology, obstetrics and gynecology, ophthalmology, pediatrics, podiatry, and urology.

II.D. Resources

II.D.1. Laboratory and imaging services must be available, including:

II.D.1.a) a complete biochemistry laboratory and facilities for hormone immunoassays;

II.D.1.b) access to karyotyping and immunohistologic studies; and,

II.D.1.c) nuclear, ultrasound, and radiologic facilities, to include bone density.

III. Fellow Appointment

III.A. Eligibility Criteria

III.A.1. Prior to appointment in the program, fellows should have completed an ACGME-I-accredited residency program in internal medicine, or an internal medicine residency program acceptable to the Sponsoring Institution's Graduate Medical Education Committee.

III.B. Number of Fellows

See International Foundational Requirements, Section III.B.

IV. Specialty-Specific Educational Program

IV.A. ACGME-I Competencies

IV.A.1. The program must integrate the following ACGME-I Competencies into the curriculum.

IV.A.1.a) Professionalism

IV.A.1.a).(1) Fellows must demonstrate a commitment to professionalism and an adherence to ethical principles.

IV.A.1.b) Patient Care and Procedural Skills

IV.A.1.b).(1) Fellows must provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Fellows must demonstrate competence in managing the care of patients:

IV.A.1.b).(1).(a) in a variety of health care settings, including inpatient and various ambulatory settings; the practice of health promotion, disease prevention, diagnosis, care, and treatment programs of patients of each

~~gender, from adolescence to old age, during health- and all stages of illness;~~

IV.A.1.b).(1).(b)

using critical thinking and evidence-based tools;

IV.A.1.b).(1).(c)

using population-based data; and,

IV.A.1.b).(1).(d)

with whom they have limited or no physical contact, through the use of telemedicine.

IV.A.1.b).(2)

Fellows must demonstrate competence in the evaluation and management of hormonal problems, including diseases, infections, neoplasms, and other causes of dysfunction of the following endocrine organs:

IV.A.1.b).(2).(a)

adrenal cortex and medulla;

IV.A.1.b).(2).(b)

hypothalamus and pituitary;

IV.A.1.b).(2).(c)

ovaries and testes;

IV.A.1.b).(2).(d)

pancreatic islets;

IV.A.1.b).(2).(e)

parathyroid; and,

IV.A.1.b).(2).(f)

thyroid.

IV.A.1.b).(3).

Fellows must demonstrate competence in the care of patients with Type 1 and Type 2 diabetes, as well as other types of diabetes, including:

IV.A.1.b).(3).(a)

atypical diabetes;

IV.A.1.b).(3).(b)

cystic fibrosis-related diabetes;

IV.A.1.b).(3).(c)

diabetes detection and management during pregnancy;

IV.A.1.b).(3).(d)

evaluation and management of acute, life- threatening complications of hyper- and hypoglycemia;

IV.A.1.b).(3).(e)

evaluation and management of intensive insulin therapy in critical care and surgical patients;

IV.A.1.b).(3).(f)

intensive management of glycemic control in the ambulatory setting;

IV.A.1.b).(3).(g)

latent autoimmune diabetes in adults;

IV.A.1.b).(3).(h)

long-term goals, counseling, education, and monitoring;

IV.A.1.b).(3).(i)

monogenic diabetes;

- IV.A.1.b).(3).(j) multidisciplinary diabetes education and treatment programs;
- IV.A.1.b).(3).(k) prevention and surveillance of microvascular and macrovascular complications; and,
- IV.A.1.b).(3).(l) transplant-related diabetes.
- IV.A.1.b).(4) Fellows must demonstrate competence in the care of patients with:
- IV.A.1.b).(4).(a) calcium, phosphorus, and magnesium imbalances;
- IV.A.1.b).(4).(b) disorders of bone and mineral metabolism, with particular emphasis on the diagnosis and management of osteoporosis;
- IV.A.1.b).(4).(c) disorders of fluid, electrolyte, and acid-base metabolism;
- IV.A.1.b).(4).(d) gonadal disorders; and,
- IV.A.1.b).(4).(e) nutritional disorders of obesity, anorexia nervosa, and bulimia.
- IV.A.1.b).(5) Fellows must be able to perform all medical, diagnostic, and surgical procedures considered essential for the area of practice including
- IV.A.1.b).(5).(a) performing diagnostic and therapeutic procedures relevant to their specific career path, including;
- IV.A.1.b).(5).(a).(i) continuous glucose monitoring;
- IV.A.1.b).(5).(a).(ii) management of insulin pumps; and,
- IV.A.1.b).(5).(a).(iii) thyroid biopsy.
- IV.A.1.b).(5).(b) treating their patient's conditions with practices that are patient-centered, safe, scientifically based, effective, timely and cost-effective, to include gender dysphoria or hormonal treatments for transgender patients; and,
- IV.A.1. b).(5).(c) using diagnostic and/or imaging studies relevant to the care of the patient, including.
- IV.A.1.b).(5).(c).(i) computed tomography (CT);
- IV.A.1.b).(5).(c).(ii) diagnosis and management of ectopic hormone production;

- IV.A.1.b).(5).(c).(iii) diagnosis and management of lipid and lipoprotein disorders;
- IV.A.1.b).(5).(c).(iv) genetic screening and counseling for endocrine and metabolic disorders;
- IV.A.1.b).(5).(c).(v) interpretation of hormone assays;
- IV.A.1.b).(5).(c).(vi) interpretation of laboratory studies, including the effects of non-endocrine disorders on these studies;
- IV.A.1.b).(5).(c).(vii) interpretation of skeletal dual photon absorptiometry;
- IV.A.1.b).(5).(c).(viii) ~~performance and~~ interpretation of stimulation and suppression tests;
- IV.A.1.b).(5).(c).(ix) magnetic resonance imaging (MRI);
- IV.A.1.b).(5).(c).(x) quantification of bone density;
- IV.A.1.b).(5).(c).(xi) radionuclide localization of endocrine tissue;
- IV.A.1.b).(5).(c).(xii) thyroid fine needle biopsy; and,
- IV.A.1.b).(5).(c).(xiii) ultrasonography of the soft tissues of the neck.

IV.A.1.c) Medical Knowledge

- IV.A.1.c).(1) Fellows must demonstrate knowledge of established and evolving biomedical clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care. Fellows must demonstrate knowledge of:
 - IV.A.1.c).(1).(a) the scientific method of problem solving, and evidence-based decision-making;
 - IV.A.1.c).(1).(b) indications, contraindications, and techniques for, and limitations, complications, and interpretation of results of those diagnostic and therapeutic procedures integral to the discipline, including the appropriate indications for and use of screening tests and procedures;
 - IV.A.1.c).(1).(c) basic laboratory techniques, including quality control, quality assurance, and proficiency standards;
 - IV.A.1.c).(1).(d) biochemistry and physiology, including cell and molecular biology, as they relate to endocrinology,

- diabetes, and metabolism;
- IV.A.1.c).(1).(e) developmental endocrinology, including growth and endocrinology, diabetes, growth and development, sexual differentiation, and pubertal maturation;
- IV.A.1.c).(1).(f) endocrine adaptations and maladaptations to systemic diseases;
- IV.A.1.c).(1).(g) endocrine aspects of psychiatric diseases;
- IV.A.1.c).(1).(h) endocrine physiology and pathophysiology in systemic diseases and principles of hormone action;
- IV.A.1.c).(1).(i) genetics as it relates to endocrine diseases;
- IV.A.1.c).(1).(j) parenteral nutrition support;
- IV.A.1.c).(1).(k) pathogenesis and epidemiology of diabetes mellitus;
- IV.A.1.c).(1).(l) signal transduction pathways and biology of hormone receptors; and,
- IV.A.1.c).(1).(m) whole organ and islet cell pancreatic transplantation.

IV.A.1.c).(2) Fellows must demonstrate sufficient knowledge specific to the subspecialty of endocrinology including application of technology appropriate for the clinical context, including evolving technologies.

IV.A.1.d) Practice-based Learning and Improvement

IV.A.1.d).(1) Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning.

IV.A.1.e) Interpersonal and Communication Skills

IV.A.1.f) Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Fellows must:

IV.A.1.f).(1).(a) demonstrate competence in educating patients about the rationale and technique for, and complications of, thyroid biopsy.

IV.A.1.g) Systems-based Practice

IV.A.1.g).(1) Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health

care, including the social determinates of health, as well as the ability to call effectively on other resources in the system to produce optimal care.

IV.B. Regularly Scheduled Educational Activities

- IV.B.1. The educational program must include didactic instruction based upon the core knowledge content in the subspecialty area.
- IV.B.1.a) The program must ensure that fellows have an opportunity to review all knowledge content from conferences that they could not attend.
- IV.B.2. Fellows must have a sufficient number of didactic sessions to ensure fellow-fellow and fellow-and-faculty interaction.

IV.C. Clinical Experiences

- IV.C.1. Assignment of rotations must be structured to minimize the frequency of rotational transitions, and rotations must be of sufficient length to provide a quality educational experience, defined by continuity of patient care, ongoing supervision, longitudinal relationships with faculty members, and meaningful assessment and feedback.
- IV.C.2. Rotations must be structured to allow fellows to function as a part of an effective interprofessional team that works together toward the shared goals of patient safety and quality improvement.
- IV.C.3. Rotations must be structured to minimize conflicting inpatient and outpatient responsibilities.
- IV.C.4. At least 12 months must be devoted to clinical experiences.
- IV.C.5. Fellows must have experience in the role of an endocrinology consultant in ~~both~~ the inpatient and ambulatory outpatient settings.
- IV.C.6. The program must provide educational experiences that allow fellows to interact with and learn from other health care professionals.
- IV.C.7. The educational program must provide fellows with elective experiences relevant to their future practice or to further skill/competence development.
- IV.C.8. Fellows ~~must~~ should participate in training using simulation.
- IV.C.9. Fellows should have a structured continuity ambulatory clinic experience for the duration of the program that exposes them to the breadth and depth of endocrinology, diabetes, and metabolism.
- IV.C.9.a) ~~This should include an appropriate distribution of patients of each gender and a diversity of ages.~~
- IV.C.9.a) This experience should average two half-days each week throughout the educational program.

~~IV.C.9.a).(1) Each fellow should, on average, be responsible for four to eight patients during each half-day session.~~

~~IV.C.9.a).(1).(a) Each fellow should, on average, be responsible for no more than eight to 12 patients during each half-day ambulatory session.~~

IV.C.9.b) The continuing patient care experience should not be interrupted by more than one month, excluding a fellow's vacation.

IV.D. Scholarly Activity

IV.D.1. Fellows' Scholarly Activity

IV.D.1.a) While in the program all fellows must engage in at least one of the following scholarly activities: participation in grand rounds, posters, workshops, quality improvement presentations, podium presentations, grant leadership, non-peer-reviewed print/electronic resources, articles or publications, book chapters, textbooks, webinars, service on professional committees, or serving as a journal reviewer, journal editorial board member, or editor.

IV.D.2. Faculty Scholarly Activity

See International Foundational Requirements, Section IV.D.2.

V. Evaluation

See International Foundational Requirements, Section V.

VI. The Learning and Working Environment

VI.A. Principles

See International Foundational Requirements, Section VI.A.

VI.B. Patient Safety

See International Foundational Requirements, Section VI.B.

VI.C. Quality Improvement

See International Foundational Requirements, Section VI.C.

VI.D. Supervision and Accountability

VI.D.1. Direct supervision of procedures performed by each fellow must occur until competence has been acquired and documented by the program director.

VI.E. Professionalism

- VI.F. Well-Being**
See International Foundational Requirements, Section VI.E.
- VI.G. Fatigue**
See International Foundational Requirements, Section VI.F.
- VI.H. Transitions of Care**
See International Foundational Requirements, Section VI.G.
- VI.I. Clinical Experience and Education**
See International Foundational Requirements, Section VI.H.
- VI.J. On-Call Activities**
See International Foundational Requirements, Section VI.I.