Fellowship in Endocrinology, Diabetes and Metabolism

Division of Endocrinology, Metabolism, and Lipid Research

Washington University in St. Louis
School of Medicine
Fellowship in Endocrinology, Diabetes, and Metabolism

Washington University’s Division of Endocrinology, Metabolism, and Lipid Research routinely ranks among the premier academic teaching, clinical, and research programs in the country. *U.S. News & World Report touts its clinical services among the top programs nationwide, and NIH has continuously supported its competitive research and training grants for many years.*

Endocrinologists in the division diagnose and treat patients with complex endocrine and metabolic disorders, including diabetes (Type 1, Type 2, monogenic diabetes and diabetes associated with organ transplantation and other conditions), hyperlipidemia (severe hypercholesterolemia, including many families with familial hypercholesterolemia, hypertriglyceridemia and other rare types of hyperlipidemia), thyroid disease, including thyroid cancer, metabolic bone disorders, multiple endocrine neoplasia syndromes, pituitary diseases and other neuroendocrine disorders, adrenal disease (such as pheochromocytomas, adrenal insufficiency, and adrenal cancers), metabolic syndrome, hirsutism, polycystic ovarian syndrome and male hypogonadism. *The division offers patients the very latest in diagnostic and treatment options.* For example, Washington University is the only site in our region using outpatient LDL apheresis to filter high levels of cholesterol from the blood and lower LDL by as much as 50 percent in patients unresponsive to conventional therapies.

*Endocrinologists at Washington University play a leading role in improving patient care through basic and clinical research.* Faculty direct clinical studies to evaluate the latest therapies and diagnostic procedures. Basic scientists conduct innovative molecular and translational research with the potential to pave the way for new treatments. Together this diverse faculty *provide an outstanding training environment for some of the nation’s best medical students, residents, physicians, and pre- and postdoctoral fellows.*

**Mission**

The mission of the *Division of Endocrinology, Metabolism and Lipid Research* is to conduct innovative research, to teach research and clinical medicine, and to provide exemplary care to patients with endocrine disorders. The Division provides unique patient care services to inpatients at Barnes-Jewish Hospital and to outpatients from the St. Louis community and beyond.

**Educational Goals**

The primary goal of the Washington University clinical fellowship program in endocrinology, diabetes and metabolism is to train academically oriented physicians in our discipline. While many of the graduates of the program will become primarily bench-oriented pre-clinical scientists, others will become patient-oriented clinical scientists and some will become clinical consultants/educators. It is our objective to provide each fellow with substantive experiences in biomedical research – bench-oriented, patient-oriented, or both, and in clinical endocrinology. The high quality training and clinical experience will prepare the fellow to function as an expert consultant in endocrinology and fulfills all ACGME and ABIM requirements.
Research training is supervised by a faculty research mentor, who may be engaged in basic, translational or clinical research. Selection of a research mentor from the pool of qualified faculty members is primarily the responsibility of each fellow. This is coordinated with the Division Chief, Clay F. Semenkovich, M.D.

Clinical training is conducted by the faculty, staff and the trainees themselves through supervised patient-care, simulation exercises and our didactic teaching program. The clinical training program includes the care of adult inpatients with diabetes and endocrine disorders, and outpatients of all ages. It is designed to allow the fellow to become expert in the diagnosis and management of endocrine disorders and to promote teaching of endocrinology to medical students, residents, physicians in practice and other health care providers. Clinical training includes inpatient and outpatient consultations. The inpatient consultation team – fellow, resident(s), student(s), and consultant – sees patients in Barnes-Jewish Hospital. Outpatient rotations include experiences in general endocrinology, metabolism and diabetes – consultation office with individual faculty members, fellows’ continuity clinic and VA endocrinology and metabolism.

In general, clinical training is distributed over the first two years of the fellowship. Thus, fellows participate in both clinical and research training from the beginning. To complete research training, a third (and in some instances a fourth) year of fellowship is available. Fellows are expected to see outpatients in the Center for Advanced Medicine and several other ambulatory care settings in the departments of medicine, pediatrics and obstetrics and gynecology. The outpatient clinics average three half days per week over the first year and two half days per week during the second year. In addition, fellows are expected to see inpatient consultations. The inpatient consultations average four months during the first year and two months during the second year. Fellows are expected to teach medical students and residents and to participate actively in conferences, seminars, and case presentations.
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Endocrinology Certification Procedural Requirements

At its April 2013 meeting, the Endocrinology, Diabetes and Metabolism Specialty Board voted to revise the policy regarding procedural requirements for initial certification. Effective in academic year 2015-2016, all fellows will be required to achieve competency in the following:

- **Thyroid Ultrasound and Fine Needle Aspiration** – includes recognizing the indication for neck ultrasound, interpreting thyroid imaging, performing thyroid ultrasound, and performing ultrasound-guided fine needle aspiration of thyroid nodules.
- **Insulin Pump Core Therapy** – includes an understanding of the technology, risk and benefits of the delivery system, competency in determining glucose targets and calculations, and demonstrated competency in data interpretation of pump downloads.
- **Continuous Glucose Monitoring** – includes an understanding of the technology and evidence-based guidelines and indications for use, demonstrated competency in interpreting tracings and logbooks, and evaluating patients’ current therapy and initiating appropriate changes based on CGM findings.
- **Dual Energy X-ray Absorptiometry (DXA)** – includes an understanding of the clinical indications for evaluating osteoporosis/metabolic bone disease, understanding of the basic science and operating principles of bone densitometry and assessment of fracture risk, reviewing and interpreting scan data and creating DXA reports, and indications and methodologies for longitudinal monitoring.

1st Year Rotations

- **Inpatient Endocrine Consult Service** – 2 months
- **Inpatient Diabetes Consult Service** – 2 months
- **Outpatient Continuity Clinic** – weekly
- **Diabetes Center Clinic** – 1 month
- **Lipid Clinic** – 2 months
- **VA Endocrinology and Metabolism Clinic** – 2 3-month-rotations
- **Bone Health Clinic** – 2 months
- **Reproductive Endocrinology Clinic** – 1 month
- **Thyroid Nodule Clinic** – 2 months
- **Research Training** – continuous through 12 months
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2nd Year Rotations

- Inpatient Endocrine Consult Service – 1 month
- Inpatient Diabetes Consult Service – 1 month
- Ambulatory Consultation Faculty Clinics – 4 3-month rotations
- Outpatient Continuity Clinic – weekly
- Diabetes Center Clinic – 1 month
- Diabetes and Pregnancy Clinic – 1 month
- Pediatric Endocrinology and Metabolism Clinic – 3 months
- Diabetic Retinopathy Clinic – A hands-on training session and a 4-hour clinic
- Thyroid Nodule Clinic – 4 months
- Bone Health Clinic – 1 month
- Research Training – ongoing

Optional 3rd/4th Year – Although a 3rd or 4th year of training is not required by the ACGME, the additional year(s) are available given performance and interest in additional research training.

Electives – Available based on fellow’s interest

Conferences

- Rounds with Division Chief- weekly, for those rotating on the Inpatient Consult Service
- Medicine Grand Rounds- weekly
- Metabolism, Obesity and Diabetes (MOD) Seminar- weekly—September through May
- Clinical Lecture Series- weekly—September through May
- Endocrinology and Metabolism Care Conference- weekly—September through May
- Endocrine Oncology Conference- twice monthly
- Pituitary Conference once monthly—September through May
- Endocrine Fellowship Interdisciplinary Training Sessions- weekly—July & August
Special Seminars & Events

- **Dr. Alexander & Helena Schonfeld Lecture** – Honored Guest Lecturer
- **World Diabetes Day Seminar & Poster Session** – November/Annually, Honored Guest Lecturer
- **Julio V. Santiago Memorial Lecture** – May/Annually; Honored Guest Lecturer
- **Fellows’ Research Presentations & Seminar** – twice yearly—December/May
- **Kilo Symposium** – once yearly—November
- **Fellows’ Research Presentations & Seminar** – twice yearly—December/May

Special Projects – ACGME requires that all fellows engage in and complete a Quality Assurance/Quality Initiative/Patient Safety Project with results to be presented to faculty and fellows.

Academic Portfolio – An electronic compilation of the fellows’ training in patient care, systems-based learning, medical knowledge, research experience and evaluations: Consists of the fellow’s documentation of individual outpatient clinics, a log and copies of reports of thyroid ultrasounds and biopsies, DXA scan interpretations, and CGM reports; evidence of system-based learning—quality assurance/quality initiative projects; simulation experiences; copies of presentations, research protocols, manuscripts, and publications; evaluations, and curriculum vitae.

Institutional Resources

**Washington University Diabetes Center at Barnes-Jewish Hospital**

Founded in July 2006, the Washington University Diabetes Center at Barnes-Jewish Hospital offers a comprehensive and multidisciplinary outpatient and inpatient service for the prevention, diagnosis, treatment, and management of diabetes. Standardized inpatient protocols have been implemented to better manage inpatients, promote faster wound healing, hasten return to wellness, and facilitate faster discharge from the hospital.

*Endorsed by the American Diabetes Association as an “Education Recognition Program,” the outpatient Diabetes Center provides advanced treatment and specializes in instructing patients.* Patients receive coordinated, comprehensive care from Washington University endocrinologists and specially trained nurses and dieticians, certified by the American Diabetes Association as “diabetic educators.” Physicians and staff treat both newly diagnosed and long-term patients with diabetes using a range of comprehensive services in one convenient setting: individualized teaching sessions on controlling diabetes, small group classes with certified educators, and formalized instruction for insulin self-management, carbohydrate counting, and initiating and maintaining insulin pump therapy. Registered dieticians provide nutrition counseling in individual or group sessions. Services also include
on-site foot care, computerized 72-hour blood sugar monitoring, and access to clinical trials evaluating new drug therapies for diabetes and lipid disorders.

Career Pathways Post Fellowship Training

Following completion of postdoctoral training, the division offers both informal and structured resources to assist junior faculty with developing careers in academic medicine as clinicians, clinical researchers, or basic scientists. Whether seeking an academic career as a faculty clinician and teacher or as an independent investigator, a variety of career pathways are available, such as the medical school’s ICTS and the division’s BIRCWH program. The Building Interdisciplinary Research Careers in Women’s Health supports the career development of faculty members who show exceptional promise for an independent research career that will benefit the health of women.

These junior faculty members, known as Interdisciplinary Women’s Health Research (IWHR) Scholars are nurtured as they make the critical transition from inchoate junior faculty member to full independent investigator. The program targets individuals who have recently completed clinical training or postdoctoral fellowships, bridging the gap between this advanced training and research independence. It also bridges different scientific disciplines and areas of interest in women’s health through a mentor pool of independent scientists representing eight different departments in health.

Training faculty & related clinical and research activities

- **Ana Maria Arbelaez, MD**
  Glucose counterregulation and hypoglycemia

- **Thomas J. Baranski, MD, PhD**
  G-proteins, pathogenesis of diabetes

- **Carlos Bernal-Mizrachi, MD**
  Vitamin D and diabetes

- **Kim A. Carmichael, MD, FACP**
  Optimizing endocrine care

- **Roberto Civitelli, MD**
  Intercellular signaling in bone

- **William E. Clutter, MD**
  Endocrinopathy management

- **Julia Dunn, MD**
  General Endocrinology at VA

- **Stephen J. Giddings, MD**
  General Endocrinology at VA

- **Anne C. Goldberg, MD, FACP, FAHA**
  Novel agents for dyslipidemias

- **Charles A. Harris, MD, PhD**
  Glucocorticoids in obesity and diabetes

- **Cynthia Herrick, MD**
  Expanding diabetes and endocrine care

- **Abby Solomon Hollander, MD**
  Growth hormone and diabetes
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- Paul Hruz, MD, PhD
  Glucose transport

- Marina Litvin, MD
  Expanding diabetes and endocrine care

- Irfan J. Lodhi, PhD
  Adipocyte biology and its role in obesity and diabetes

- Bess A. Marshall, MD
  Carbohydrate metabolism, glucose transport, and insulin resistance

- Janet B. McGill, MD
  Novel agents for diabetes

- Colin Nichols, PhD
  Pancreatic beta cell function and ion channels in diabetes

- Richard E. Ostlund, MD
  Cholesterol absorption

- Dominic Reeds, MD
  Nutrition and diabetes care

- Amy Riek, MD
  Vitamin D and cardiometabolic outcomes

- Clay F. Semenkovich, MD
  Diabetes and lipid metabolism

- Julie M. Silverstein, MD
  Improving pituitary treatments

- Garry S. Tobin, MD
  Expanding diabetes care

- Fumihiko Urano, MD, PhD
  Insulin biosynthesis and Wolfram syndrome

- Neil H. White, MD, CDE
  Diabetes complications

- Michael P. Whyte, MD
  Inherited disorders of bone

- Burton Wice, PhD
  Incretins and beta cell function

- Naga Yalla, MD
  Expanding diabetes care

- Kevin E. Yarasheski, PhD
  Metabolism in HIV infection

2015 Clinical Fellows

Victoria Adjovu, MD
Kevin Bauerle, MD, PhD
Conor Best, MD
Sara Bou Malham, MD
Paulina Cruz Bravo, MD
Dustin Higgins, DO
Jing Hughes, MD
Clare Moynihan, MD
Karin Sterl, MD