Internal Medicine House Staff Ambulatory Rotation in Endocrinology, Diabetes and Metabolism

The Endocrinology, Diabetes and Metabolism Division team evaluates and manages patients with diabetes, osteoporosis, thyroid diseases and other endocrine disorders. The service provides outpatient consultative services at the Joslin Diabetes Center and inpatient consultations primarily at University Hospital and the VA Medical Center.

The faculty of the Division of Endocrinology, Diabetes and Metabolism includes the following individuals:

Ruth S.Weinstock, M.D, Ph.D.
SUNY Distinguished Service Professor, Division Chief, Medical Director, Clinical Research Unit and Joslin Diabetes Center

Nidhi Bansal, MBBS
Assistant Professor of Medicine, Director of Internal Medicine housestaff rotation in Endocrinology, Diabetes and Metabolism

Ruban Dhaliwal MD
Assistant Professor of Medicine

Marisa E. Desimone, M.D.
Assistant Professor of Medicine, Director of Medical Student elective, Director of Telemedicine

Barbara L Feuerstein, M.D.
Associate Professor of Medicine and Chief, Endocrinology, VA Medical Center.

George G. Holz, Ph.D.
Professor of Medicine and Pharmacology and Empire Scholar

Rachel L. Hopkins, M.D.
Assistant Professor of Medicine, Director of Fellowship Program, and Pituitary and Transgender Programs

Roberto E. Izquierdo, M.D.
Professor of Medicine and Pediatrics, Director, Thyroid Center and Division Chief, Pediatric Endocrinology and Diabetes

Jennifer J. Kelly, D.O.
Associate Professor of Medicine and Director of Bone Densitometry

Colin A. Leech, Ph.D.
Research Associate Professor

Barbara Mols-Kowalczewski, M.D.
Assistant Professor of Medicine

Arnold M Moses, M.D.
Professor Emeritus

Prashant V. Nadkarni, M.D.
Assistant Professor of Medicine, Division Quality Officer

Michael Wm. Roe, Ph.D.
Associate Professor of Medicine and Cell and Developmental Biology

Rajeev Sharma, MBBS
Assistant Professor of Medicine

I. Educational Purpose

The resident in Internal Medicine should:

- Be competent to evaluate and treat common endocrine disorders including diabetes, osteoporosis, disorders of the thyroid, adrenal, and pituitary glands.
- Have appropriate understanding of when referral to an endocrinologist is indicated.
- Receive training in:

1. the care of patients with type 1 and 2 diabetes mellitus
2. the evaluation and management of osteoporosis and other metabolic bone diseases
3. the skills necessary for the diagnosis and management of other common endocrine disorders
4. the indications for and use of bone mineral densitometry (DXA), insulin pump therapy, continuous glucose monitoring devices (glucose sensors), thyroid ultrasonography and fine needle aspirations (FNAs) of thyroid nodules.

II. Learning Venue

A. Rotation Description:

The Endocrinology, Diabetes and Metabolism outpatient service provides outpatient consultation and continuity care for patients ages $\geq$ 18 years, with diabetes and other endocrine disorders at the Joslin Diabetes Center, 3229 E. Genesse Street, Syracuse. Referrals are received for patients from > 20 counties, of male and female gender, and of varying ethnicities and cultures. Ambulatory patients are seen for both routine and urgent visits. The center uses a team approach. Team members include attendings, fellows, mid level practitioners, diabetes nurse educators, dietitians, a physical therapist and a podiatrist. Internal medicine housestaff and medical students join the team when they rotate on the Endocrinology, Diabetes and Metabolism service.

At the Joslin Diabetes Center, house staff participate in the evaluation and management of ambulatory patients with diabetes, thyroid diseases, metabolic bone diseases and other endocrine conditions. A typical weekly schedule at the Joslin Center is as follows:

Day	Time	Clinic/Activity	Supervisor
MONDAY	8:30-11am	Evaluate patients with a variety of endocrine disorders	Dr. Bansal
	11-11:30am	Understanding thyroid radiology	Dr. Bansal
	1-3pm	Evaluate patients with a variety of endocrine disorders	Dr. Nadkarni
	3-4pm	Podiatry (diabetes patients)	Dr. Concilla (podiatrist)
TUESDAY	8:30-11am	Evaluate patients with metabolic bone diseases	Dr. Dhaliwal
	11-11:30am	Understanding metabolic bone disease radiology	Dr. Dhaliwal
	1- 3pm	Evaluate patients with diabetes and a variety of other endocrine disorders	Dr. Feuerstein
	3-4pm	Nutrition	Diana Stuber Pam Blackmer (dietitian diabetes educators)
WEDNESDAY	8:30-11:00 am	Evaluate patients with diabetes, osteoporosis and a variety of other endocrine disorders	Dr. Kelly
	11:00-11:30am	Understanding DXA reports	Dr. Kelly
	1- 3pm	Evaluate patients with diabetes and a variety of other endocrine disorders	Dr. Bansal
	3-4pm	Understanding insulin pump therapy and continuous glucose monitoring devices	Joslin diabetes educators

THURSDAY	8:30- 11am 11-11:30 am 1-3pm 3-4pm	Evaluate patients with general endocrine disorders including pituitary diseases; management of transgender patients Understanding Pituitary radiology Evaluate patients in the urgent clinic including patients with thyroid disorders Understanding management of thyroid cancers and indications for use of radioactive iodine (RAI)	Dr. Hopkins/ Fellows Dr. Hopkins/ Fellows Dr. Izquierdo/ Dr Bansal Dr. Izquierdo/ Dr Bansal
FRIDAY	8:30-11 am 11-11:30am 1-3pm 3-4pm	Evaluate patients with diabetes, thyroid and other endocrine disorders Use of new technology including insulin pump therapy and continuous glucose monitoring systems in diabetes Evaluate patients with diabetes, thyroid and other endocrine disorders Use of thyroid sonography and indications for FNAs of thyroid nodules	Dr. Desimone Dr. Desimone/ Kate O'Brien Dr. Desimone Dr. Izquierdo/ Fellows

Expectations of PGY-1: The intern will:

- Complete detailed history and physical examinations of all assigned patients and complete progress notes on a daily basis. Patient evaluations at the Joslin Center will be under the direct supervision of a Joslin attending.
- Evaluate an average of two-three patients per clinic session.
- Be expected to recognize and treat the basic clinical and laboratory abnormalities of common endocrine disorders seen in ambulatory settings.
- Be expected to demonstrate intellectual curiosity and evidence-based patient care approaches, improve their own knowledge by reading and seeking evidence based solutions for clinical problems encountered.
- Be expected to further his/her own learning through the use of reading materials outlined below.
- Display professionalism and good communication skills with the team, nurses, patients and families.
- Work efficiently with nurses and educators, dietician, social worker and podiatrist to provide comprehensive and timely patient care.

Expectations of the Senior Resident: In addition to the above, the senior resident will:

- Be expected to master the basic clinical evaluation and management of major endocrine diseases, and indications and interpretation of endocrine laboratory testing.
- Fulfill teaching responsibilities to the intern and medical students.
- Demonstrate leadership and model professionalism and good communication skills.
- Serve as a resource for team learning.
- Continue to expand their knowledge of endocrinology, diabetes and metabolism with the aid of the reading materials outlined below.
- Model systems-based practice competencies by working efficiently with nurses and educators, dietician, social worker and podiatrist to provide comprehensive and timely patient care.

B. Teaching Methods:

1. Daily Patient Appointments: The resident will evaluate each assigned patient, and present and discuss their findings with the attending to formulate management plans. The resident will be expected to know each of his patients well, to have collected all relevant data, and to present in a concise, logical format.

2. Required Reading:
   Standards of Medical Care in Diabetes at:
   http://professional.diabetes.org/content/clinical-practice-recommendations

3. Recommended References:

- www.endotext.com (excellent free online reference).
- Williams Textbook of Endocrinology: ed. Shlomo Melmed, Kenneth S. Polonsky, P. Reed Larsen, Henry M. Kronenberg.
- Primer on the Metabolic Bone Diseases and Disorders of Mineral Metabolism: ed. Clifford J. Rosen, Roger Bouillon, Juliet E. Compston, Vicki Rosen
- Endocrinology (textbook) ed. DeGroot, Jameson
- Basic Medical Endocrinology: H Maurice Goodman
- Joslin Diabetes Mellitus (textbook): C. Ronald Kahn, Robert J. Smith, Gordon C. Weir, George L. King, Alan C. Moses
- The Washington Manual Endocrinology Subspecialty Consult: Katherine E .Henderson, Katherine Handerson
- Manual of Endocrinology and Metabolism: Norman Lavin
- Up-to-date online
- PIER at www.acponline.org for relevant peer reviewed discussions

4. Unique Learning Opportunities:

- Core curriculum and board review sessions (Wednesday 8-9 am) at Joslin Diabetes Center.
- Bone and Research Journal Club (Wednesday 9-10 am) at Joslin Diabetes Center (fellow presentations).

- Case Conferences (Thursday 12-1 pm) at Joslin Diabetes Center, which includes discussions on general endocrine disorders, diabetes and metabolism, thyroid disorders and disorders related to calcium/bone, adrenal and pituitary glands. (fellow presentation with group discussions)
- Advances in Endocrinology, Diabetes & Metabolism conference (Friday 12-1 pm) at Joslin Diabetes Center, presented by faculty and outside speakers.
- Thyroid Tumor Board (Multidisciplinary conference, with participation of endocrinologists, surgeons, pathologist, radiologist and radiation oncologists, every 3rd Wednesday of month 8-9 am) at UH, Pathology, 6th floor, 6017.
- Basic science conference (every 1st Wednesday of month 9:30-10:30 am) at IHP, presented by basic science faculty.
- Power Rounds and guest Research Seminars per schedule.

C. Mix of Diseases and Patient Characteristics

Common Clinical Presentations and Diseases:

Diabetes mellitus
Obesity
Thyroid disorders
Parathyroid disorders
Pituitary disorders
Hypothalamic disorders
Gonadal disorders
Impotence
Infertility
Metabolic bone diseases
Hyponatremia
Lipoprotein disorders
Adrenal disorders
Transgender

Endocrine Emergencies:

Diabetic ketoacidosis
Hypoglycemia
Hyponatremia
Hypernatremia
Hyperosmolar coma
Adrenal crisis
Thyroid storm

III. Educational Content

1.Endocrinology and Diabetes

Principles of Endocrinology

Diabetes Mellitus Type 1 and 2
Disorders of the Thyroid Gland including thyroid cancer
Disorders of the Pituitary Gland and Hypothalamus
Disorders of the Adrenal Gland
Pheochromocytoma
Hypoglycemia
Obesity and Metabolic Syndrome
Disorders of the Testes and Male Reproductive System
Disorders of the Ovary and Female Reproductive Tract
The Menopause Transition and Postmenopausal Hormone
Disorders of Sexual Differentiation
Endocrine Tumors of the Gastrointestinal Tract and
Pancreas Disorders Affecting Multiple Endocrine Systems

2. Disorders of Bone and Mineral Metabolism

Bone and Mineral Metabolism in Health and Disease
Diseases of the Parathyroid Gland and Other Hyper- and Hypocalcemic Disorders
Osteoporosis
Paget Disease and Other Dysplasias of Bone

3. Disorders of Metabolism

Lipid Disorders
Inherited Disorders of Carbohydrate Metabolism

IV. Method of Evaluation

Evaluations are based on the six core competencies. Interim evaluations will be provided to each member of the team. Mid rotation verbal feedback should also be sought by residents. Residents at all levels of training are evaluated by their attendings, other team members and students, as applicable. All team members are expected to complete formal evaluations at the end of each rotation using the web-based E-Value evaluation software.

V. Rotation Specific Competency Objectives

A. **Patient care –** This rotation offers residents to participate in care of patients with endocrine disorders including diabetes, thyroid disorders, adrenal disease, pituitary disease and metabolic bone disease, in the outpatient setting at the Joslin Diabetes Center.

B. **Medical knowledge –** This rotation offers training in skills necessary for the diagnosis and management of endocrine disorders including diabetes, thyroid diseases, osteoporosis and other metabolic bone diseases. Also provides opportunity to learn about the use of bone densitometry, insulin pump therapy, continuous glucose monitoring devices, thyroid sonography, FNA of thyroid nodules, nutrition services, radiographic imaging of pituitary and adrenal glands, and podiatry. Also provides opportunity to attend various endocrine conferences to enhance their learning.

C. **Professionalism -** Residents should demonstrate the ability to interact professionally with patients, colleagues, and all members of the health care team demonstrating the ability to provide care as a member of an interdisciplinary team. They should demonstrate acceptance of professional responsibility as the physician for patients under his/her care at the clinic. Residents should demonstrate an understanding of the ethical concepts of confidentiality, consent, and autonomy.

D. **Interpersonal and Communication skills –** Residents will conduct themselves professionally and learn how to effectively elicit a comprehensive history. Evaluations will be based on clarity of written and verbal communications of consultative advice to patient and their families, referring physicians and other health team members.

E. **Practice Based Learning –** Resident should demonstrate the ability to identify and acknowledge gaps in personal knowledge and skills. Resident should demonstrate the ability to develop and implement strategies for filling gaps in knowledge and skills. Resident should demonstrate a commitment to professional scholarship, including systematic and critical review of literature, with emphasis on integration of basic science with clinical medicine and the principles of evidence-based medicine.

F. **Systems Based Practice –** Residents have the opportunity to learn about coordinating long term care for patients with diabetes and other endocrine disorders and coordination with primary care, other subspecialists as needed and diabetes education team.

Reviewed & Revised by: Nidhi Bansal MBBS and Ruth S. Weinstock, MD PhD
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