GOALS AND OBJECTIVES
Endocrine Inpatient Consultation Service

Barnes-Jewish Hospital, Inpatient Service / Monthly rotation
Consultants: Endocrinology, Metabolism & Lipid Research Faculty
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Educational Goal and description of the rotation: Fellows in endocrinology, diabetes and metabolism are assigned to a two-month (split) rotation during their first year and one month during their second year. The ED & M inpatient consultation team (fellow in ED & M, resident(s) in medicine, medical student(s) and faculty consultant) provides subspecialty consultative services, and in some instances co-management (e.g., management of diabetes), to patients in Barnes-Jewish Hospital (BJH). This team is also the organizational focus of the training of medical residents and students. Fellows seeing inpatients are supervised by the faculty consultant for the monthly rotation. All of the competency milestones are pertinent to this rotation. The educational goal for this rotation is for the fellow to develop competency in the diagnosis and treatment of a variety of endocrine disorders that may be the cause of an acute illness, may be a confounding factor during an acute illness, or may be the result of or require surgical correction.

Educational purpose (curriculum): The specific educational purposes of this rotation are to permit the fellow to understand the clinical presentations of hospitalized patients with endocrine-metabolic disorders and to be able to evaluate, diagnose and treat endocrine-metabolic disorders in hospitalized patients. While this rotation provides major exposure to acute endocrine-metabolic disorders (in the hospital, in the emergency room or often in the pre-hospital phase since the ED & M consult fellow is often the initial, or at least early, contact person in the case of patients with endocrine-metabolic emergencies), patients with chronic endocrine-metabolic disorders (often but not invariably admitted because of a non-endocrine-metabolic problem) are also seen. The specific objectives of this rotation are to teach the fellow to become proficient in the rapid diagnosis and treatment of endocrine-metabolic emergencies – including diabetic ketoacidosis, diabetic hyperosmolar syndrome, hypoglycemia, hyponatremia, thyroid storm, severe hypothyroidism, primary and secondary acute adrenocortical insufficiency including pituitary apoplexy and adrenal infarction among others – and to become skilled in the evaluation and treatment of hospitalized patients with all endocrine-metabolic disorders – including endocrine adaptations/maladaptations to systemic diseases including psychiatric disorders, nutritional disorders including wasting and obesity, disorders of fluid/electrolyte/acid-base metabolism, hypertension, aging, hormone producing neoplasms as well as type 1 and type 2 diabetes and their retinal, renal, neural, cardiac, cerebrovascular and peripheral vascular complications and their short-term management in the setting of acute illnesses or the perioperative period, metabolic bone disorders including osteoporosis, disorders of calcium, phosphorous and magnesium metabolism, dyslipidemias and the impact of acute illness on lipoprotein metabolism, and hypothalamic-pituitary, thyroid, parathyroid, pancreatic islet, adrenocortical, adrenomedullary, ovarian and testicular disorders.
**Patient Care:** Patient care is provided by the team members using a graduated delegation of responsibility. Students may interview and examine patients but their findings should be confirmed by a more senior member before presenting the case to the attending. Residents can evaluate patients and begin to write the history and physical examination, with relevant sections about past, family and social history but should not commit to a diagnostic or therapeutic plan until the fellow or attending are available to see the patient. A first year fellow will review student cases, see patients independently and formulate a diagnostic and treatment plan generally after at least a phone consultation with the attending. By the second month on service the fellow should be making independent decisions about the diagnostic and treatment plan, and have the confidence to place initial orders in the chart, subject to change but generally confirmed by the attending. Thus throughout the fellowship, as the fellow’s ability to handle specific endocrine problems increases, so does the responsibility to do so. The most important competence measure is the ability to care for patients safely and effectively, which is expected by the end of the first year of fellowship.

The fellow will be expected to arrange appropriate follow up for patients seen by the consult service. This will ideally be arranged before patient discharge and be reported in the discharge summary.

**Medical Knowledge:** Fellow’s knowledge of acute endocrine problems is expected to grow exponentially during the first month on the inpatient service. These are often not problems that the fellow has encountered as a medical resident, so the learning curve is steep initially. Diligent fellows see their knowledge base increase substantially, along with their growing expertise in the diagnosis and management of endocrine problems in acutely ill patients.

**Practice-based Learning and Improvement:** Feedback and discussion from the attending consultant is a key feature in fine-tuning practice-based learning and improvement. The combination of diligence in reading about unfamiliar cases, and discussion with the attending promotes steady improvement in learning and in the confidence of the fellow. By the end of the first year, new consults should be handled efficiently and effectively prior to attending input.

**Interpersonal and communication skills:** Fellows should become skilled at the art of communication with patients, other physicians, other health professionals, family members. By the second year, fellows should be able to provide accurate depictions of disease states, treatments and other necessary information to patients with compassion but also efficiency.

**Professionalism:** The faculty are expected to set an example and to teach professionalism, humanism and ethics coupled with sensitivity to cultural, occupational, environmental, socioeconomic and behavioral issues. As fellows become more comfortable with the clinical responsibilities and duties, they are expected to show greater skill adapting recommendations to cultural sensitivity and other behavioral/environmental issues.

**Systems-based practice:** This implies two things: adaptation to the electronic and other systems available in the hospital to use and the systematic approach to clinical problems. Both are necessary for success in a specialty and in an institution.
**Teaching methods:** For each of the major dimensions of the curriculum teaching is carried out under the supervision of a member of the faculty in the educational settings detailed below through the use of the following discrete methods:

- Performance of a history and physical examination on patients with endocrine-metabolic disorders.
- Presentation to a faculty member of the historical data and physical findings for both inpatient and outpatient encounters. The faculty member confirms and/or corrects the clinical data at the bedside or in the clinic examination room.
- Progressive, graduated responsibility for the development of diagnostic plans based on available clinical data.
- Progressive, graduated responsibility for the development of treatment plans based on clinical data and results from diagnostic testing.
- Directed reading based on patient encounters and references provided by faculty members individually and through the conferences.
- Progressive, graduated responsibility for communication of the findings with the patient and the referring physician, integration of new information from the patient, the referring (often primary care) physician, the patient’s course and the laboratory, and systematic follow-up.
- Attendance and participation in the following conferences: Metabolism Grand Rounds (Metabolism, Obesity and Diabetes Seminar), Internal Medicine Grand Rounds, Clinical Endocrinology Course, Pediatric/Adult Conference, Surgical Endocrinology/Oncology Conference and Bone Conference.

Fellows are supervised by faculty in all patient encounters. While fellows are given progressively increasing responsibility for their patients, each patient they see is also seen by a member of the faculty. Fellows at the end of their first year or in their second year are expected to contribute to teaching of residents and students, either by reviewing a recent paper, reviewing test procedures and expected results or an impromptu discussion of feedback pathways in endocrine systems.

**Mix of diseases:** Almost any endocrine problem can be seen on the inpatient service, but common problems include hyper and hypothyroidism, post-operative hypocalcemia, post-operative diabetes insipidus and varying degrees of pituitary insufficiency; adrenal insufficiency; steroid induced hyperglycemia, fragility fractures, hormone producing neoplasms; electrolyte disturbances; uncontrolled hypertension and diabetes.

**Reading lists and other educational materials:** The residents and fellows are encouraged to read the Washington University Subspecialty Manual in Endocrinology and recent articles about inpatient management of diabetes (NICE Sugar Study, NEJM, 2009). Fellows are expected to read about their patients’ problems and incorporate the new information gained into the care of those and future patients. References to specific patient-related issues are provided by the faculty working with the fellow in inpatient and outpatient settings and references to specific topics are provided in conference/lecture handouts. In addition, references to broad topics are distributed to all fellows. Fellows are expected to read about their patients’ problems and incorporate the new information gained into the care of those and future patients. This is facilitated by the availability to all fellows of online services such as “Up-to-Date in Endocrinology.” References to specific patient-related issues
are provided by the faculty working with the fellow in inpatient and outpatient settings and references to specific topics are provided in conference/handouts. Fellows should also refer to: