**Diabetes Inpatient Consultation Service**

**Goals and Objectives**

**Barnes-Jewish Hospital, Inpatient Service Monthly Rotation**

2017-2018

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**Educational goal and description of the rotation:** Fellows in Endocrinology, Diabetes and Metabolism (ED&M) are assigned to two one-month rotations in their first year and one one-month rotation in their second year. The Diabetes 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). Fellows, residents and students are supervised by the faculty consultant for the monthly rotation. The overall educational goal for this rotation is for the fellow to develop competence in the care of inpatients who have diabetes as a primary or concomitant illness requiring hospitalization.

**Educational purpose (curriculum):** Fellows (and rotating residents and students) will develop an understanding of the different types of diabetes and how diabetes can present with life-threatening decompensation or can increase the risk of other serious medical problems. Fellows should:

- Learn how to evaluate patients admitted to the hospital with either a primary or secondary diagnosis of diabetes (or who develop hyperglycemia as an inpatient) and to understand the interactions of critical and non-critical illness with diabetes.
- Understand the clinical presentations of patients with diabetes and other concomitant endocrine and metabolic disorders in order to accurately diagnose and evaluate the severity of the metabolic disorder.
- Learn how to develop treatment plans for inpatients with diabetes which are compatible with their underlying type of diabetes, acute illness and hospital course.
- Learn how to utilize the various hospital systems to assist with the evaluation and treatment of persons with diabetes or other metabolic disorders for which the team is consulted.
- Learn outpatient diabetes management using a team approach and technology advances where appropriate.
Competency-based goals and objectives for the Diabetes Inpatient Consultation Service are as follows:

**Patient Care:**
- The fellow will be able to obtain a history relevant to the diabetes, hyperglycemia or other metabolic disorder that includes the current illness, the current level of glycemia (or other metabolic problem such as lipids), the past history of diabetes and/or other endocrine or metabolic problem and current and past treatments.
- Be able to do a thorough physical examination that is focused on problems associated with diabetes such as retinopathy or cardiovascular and neurologic complications of diabetes.
- Determine whether additional diagnostic tests are needed for the individual patient and how those tests will assist in the care of the patient.
- Be able to formulate a treatment plan that considers the acute illness, the likely fluctuation of glucose and other metabolic parameters during the illness and the chronic nature of the illness. Treatment options for persons with diabetes may include the use of insulin drips, basal or basal/bolus insulin regimens, insulin as an additive to TPN, and insulin pumps. Fellows should become proficient at each of these treatment modalities and be able to design a treatment plan that considers the nutritional status of the patient, the clinical hospital course and ultimately the discharge of the patient.
- Approach each patient as an individual who has concerns related to his or her age, other illnesses, and social and cultural influences. The design of effective treatment should incorporate these concerns in a compassionate and appropriate manner.
- Be able to accomplish these tasks and present all of the above information to the supervising attending consultant in a manner that is proficient and skilled.

**Medical Knowledge:**
- The fellow should demonstrate active and ongoing learning about the pathogenesis, clinical presentation, epidemiology and social constructs that affect the development and progression of diabetes.
- The fellow should demonstrate knowledge of evidence-based diagnosis and treatment of diabetes and related disorders.
- The second-year fellow should be able to apply this knowledge to both patient care and teaching of residents and students.

**Practice-based Learning and Improvement:**
- The fellow should demonstrate the ability to identify strengths and weaknesses in his or her knowledge base as it relates to diabetes.
- The fellow should set learning goals and pursue active learning activities.
- The second-year fellow should critically evaluate treatment outcomes and seek improved methods for achieving treatment targets in a short period of time.

**Second year fellows should be accomplished in all of the above skills and develop the following additional skills:**
- Be able to make diagnoses of endocrine and metabolic disorders (including diabetes) and develop treatment plans with a high degree of independence.
- Be able to critically assess the current treatment regimen and use evidence-based medicine to formulate more advanced or better suited regimens for the individual patient.
• Be able to recommend the use of advanced technology, including insulin pumps and sensors, in appropriate patients.
• Be able to teach residents and students about diabetes and endocrine and metabolic disorders according to consensus guidelines, evidenced-based medicine and acquired expertise.

Teaching methods will include case presentations, bedside demonstration and discussion of cases, didactic discussions or lectures, and hands-on learning with insulin pumps, meters and sensors. Patient follow-up and ongoing discussion with the attending consultant is an important part of the teaching so that fellows can clearly understand the effects of their treatment recommendations and likely causes of success or problems.

Mix of diseases: The types of patients seen and treated on the diabetes inpatient service include those with type 1 diabetes, type 2 diabetes, hospital-acquired hyperglycemia, post-operative hyperglycemia and steroid or transplant-induced hyperglycemia. Patients with hypoglycemia that is treatment-related or of unclear etiology may require a consultation. Patients may have a metabolic emergency such as diabetic ketoacidosis, hyperosmolar syndrome, hyperglycemia accompanying other acute illnesses, or hypoglycemia. Patients may have a change in their diabetes status due to medications such as steroids, surgery or change in nutritional status that requires a change in therapy best guided by an experienced diabetes team. Every patient admitted who is being treated with an insulin pump will have a diabetes team consultation to evaluate the safety of continuing pump therapy or the need for an alternative insulin regimen. Clinical encounters may occur in any hospital division including the emergency department, intensive care units or medical, surgical or psychiatric wards. The procedures offered by the diabetes team include consultation for diagnosis, treatment or management of insulin pumps.

Competence will be evaluated during the rotation, with a discussion of competence or areas for improvement to occur at the mid-point and the end of the rotation month.

Reading lists are suggested by each consultant and may be developed with the fellow on the service at the time. Reading will be encouraged for all students, residents and fellows as an adjunct to case presentations, case management and attending discussions. Pathological material will be examined in relevant cases; however, this is unusual on this service. Other educational resources include the diabetes educators, both inpatient and outpatient.
