

Name of rotation: **Diabetes: Patient Care and
Clinical Research**

**Division: Endocrinology,
Diabetes & Nutrition**

Course Director: **Alan Shuldiner, M.D.**

Site(s): UMMC

Duration of rotation: **[] one month only
 [x] 2 weeks possible**

General description of the rotation including educational purpose, rationale or value:

Diabetes affects 7% of Americans and is the most common metabolic disorder in humans. In a hospital setting the mix of patients with diabetes is 30-40%, and admissions are usually directly or indirectly due to chronic complications of diabetes (e.g., cardiovascular disease, peripheral vascular disease, stroke, nephropathy, neuropathy, retinopathy). Studies have now conclusively shown that aggressive blood glucose management can prevent or delay diabetic complications. Furthermore, new tools for the early detection of complications allow earlier interventions which can also decrease morbidity and mortality. Most diabetic patients are cared for by internists and primary care physicians, yet few use state-of-the-art approaches to manage blood glucose or to monitor and treat complications. The purpose of this rotation is for the resident to gain an in depth understanding of the pathophysiology of diabetes and to gain hands-on experience at managing diabetes and diabetic complications in both inpatient and outpatient settings. To accomplish these goals, the resident will become part of the interdisciplinary team of the Joslin Diabetes Center at the University of Maryland. The resident also will have the option to participate in clinical and/or basic research that is ongoing at the Joslin Center and the Division of Endocrinology, Diabetes and Nutrition. Research experiences include attending the Amish Diabetes Research Clinic in Strasburg, Pennsylvania to study Amish patients with diabetes and their families for genetic studies, clinical trials of new therapeutic agents for the treatment of diabetes, obesity and complications, and basic research.

Resident responsibilities, including interns and residents:

The resident will become part of the interdisciplinary diabetes care team. The resident will spend three half day sessions seeing patients at the Joslin Diabetes Center located on the 6th floor of the University of Maryland Hospital where state-of-the-art clinical approaches to the diagnosis and management of diabetes and its complications are practiced in an outpatient setting. The resident will work closely with the dedicated interdisciplinary Joslin staff which includes adult and pediatric diabetologists, podiatrists, ophthalmologist, psychologist, certified diabetes educators, dieticians, pharmacist and exercise physiologist. The resident will also participate in the inpatient diabetes consult service, consisting of the interdisciplinary team whose goal is to manage patients with diabetes and their complications hospital-wide including the internal medicine, vascular surgery and transplantation surgery services.

Educational Objectives: An expanded version of the competencies is listed under Core Competencies in Internal Medicine. Those listed here are specific to this rotation. Since residents may choose this elective during any year of training, PGY-1 goals and objectives are distinct for those for upper level residents, and PGY-2 and 3 goals and objectives are similar.

During this rotation, the PGY-1 resident will:

Patient Care

1. Gain an in depth understanding of the diagnosis, classification, and pathophysiology of diabetes and its complications. Through history, physical examination and appropriately ordered laboratory tests, residents will be expected to be able to diagnose and correctly classify specific sub-types of diabetes.
2. Learn to optimally manage blood glucose, blood pressure and lipids to prevent or delay diabetic complications. Residents will be expected to be able to assess glycemic, BP and lipid control, and appropriately prescribe and monitor efficacy of both nonpharmacological (diet, exercise, diabetes education) and pharmacological interventions.
3. Learn to monitor, evaluate and treat diabetes complications. Residents will be expected to know and apply American Diabetes Association standards of care to monitor patients for early diabetic

complications including nephropathy, retinopathy, neuropathy, and vascular disease, and to initiate appropriate work-up and treatment if early manifestations of these complications are present.

Medical Knowledge

Practice-Based Learning

1. Optional: Obtain experience in clinical and basic research. Participate in bench to bedside research projects to elucidate the molecular, genetic and pathophysiologic mechanisms responsible for the development of diabetes and obesity, as well as clinical trials for new treatments for diabetes, diabetic complications and obesity.

Interpersonal and Communication Skills – See Core Competencies

Professionalism – See Core Competencies

System-Based Practice – See Core Competencies

During this rotation, the PGY-2 or 3 resident will:

Patient Care

1. Advance knowledge of diagnosis, classification, and pathophysiology of diabetes and its complications.
2. Manage blood glucose, blood pressure and lipids to prevent or delay diabetic complications in an independent manner, assess glycemic, BP and lipid control, and appropriately prescribe and monitor efficacy of both nonpharmacological (diet, exercise, diabetes education) and pharmacological interventions.
3. Monitor, evaluate and treat diabetes complications in independent manner. List and apply American Diabetes Association standards of care to monitor patients for early diabetic complications.

Medical Knowledge

Practice-Based Learning

1. Optional: Obtain experience in clinical and basic research. Participate in bench to bedside research projects to elucidate the molecular, genetic and pathophysiologic mechanisms responsible for the development of diabetes and obesity, as well as clinical trials for new treatments for diabetes, diabetic complications and obesity.

Interpersonal and Communication Skills – See Core Competencies

Professionalism – See Core Competencies

System-Based Practice – See Core Competencies

Check all principle teaching methods used during this rotation:

<input checked="" type="checkbox"/>	Attending teaching rounds	<input checked="" type="checkbox"/>	Interdisciplinary rounds
<input checked="" type="checkbox"/>	Patient management discussions	<input checked="" type="checkbox"/>	Small group discussions
<input checked="" type="checkbox"/>	Conferences specific to rotation	<input checked="" type="checkbox"/>	Bedside clinical rounds
<input type="checkbox"/>	Individual instruction of procedures	<input type="checkbox"/>	Review of diagnostic studies, including radiology
<input checked="" type="checkbox"/>	Other: One-on-one with attendings		

Describe the most important educational content, including the mix of diseases, patient characteristics, types of clinical encounters, procedures and services:

Hands-on experience in the diagnosis and management of patients with diabetes including screening for and managing diabetic complications. Learning how to optimize blood glucose control in both outpatient and inpatient settings by use of oral agents or multiple daily insulin injections or pump therapy, and dosing of commercially available insulins including new insulin analogs. Learn how to treat obesity as a first-line therapy for diabetes. Other clinical conditions to be encountered include gestational diabetes and pancreas transplantation. Opportunities for clinical research and drug trials in diabetes, diabetes complications, and obesity.

Check the principal ancillary education materials used:

<input checked="" type="checkbox"/>	Reading lists	<input type="checkbox"/>	Pathologic material
<input type="checkbox"/>	Radiologic studies	<input type="checkbox"/>	Other noninvasive studies
<input type="checkbox"/>	Handouts on relevant topics	<input checked="" type="checkbox"/>	Articles from the literature
<input checked="" type="checkbox"/>	Other: Joslin manuals	<input type="checkbox"/>	Case studies

Methods used to evaluate the resident and the rotation:

- Evaluation of residency performance and professionalism
- Evaluation of attending teaching skills and other attributes
- Rotation assessment by resident
- Observation of resident's clinical competency
- Observation of resident's leadership and teaching skills
- Review of the resident's history/physical exam, progress notes and documentation of procedures in the chart
- Resident's attendance of rounds and conferences monitored
- Other: Quality of performance of clinical investigation (if resident chooses this option)

Identify strengths and limitations specific to the resources of the sponsoring institution:

A major strength is the Joslin Diabetes Center at the University of Maryland. The Boston-based Joslin Center is world renowned for clinical care and research. Partnership with the Joslin Center brings their philosophy and expertise to the University of Maryland for thousands of patients in the Mid-Atlantic region with diabetes. The Clinic, with its highly qualified interdisciplinary staff, provides an ideal setting for residents to learn how to manage diabetes and diabetic complications in both outpatient and inpatient settings.

Conferences or Attending/Patient Care Rounds: (Journal club, division rounds, etc.)

<u>Name</u>	<u>Location</u>	<u>Day</u>	<u>Time</u>
Endocrinology Grand Rounds	UMMC	Monday	3:00-5:00 pm
Diabetes Conference	UMMC	Friday	12:30-1:30 pm
Research Conference (optional)	MBC	Thursday	9:00-10:30 am

Clinics:

<u>Name</u>	<u>Location</u>	<u>Day</u>	<u>Time</u>
Joslin Center	UMMC (Peds)	Tuesday	8:30am-4:30pm
Joslin Center	UMMC (Adults)	Friday	8:00am-12:00 noon
Diabetes Clinic	VA	Tuesday	8:00am-12:00 noon

Other information: Contact Tom Donner, M.D. (8-6542) for more information.

The resident and faculty members of the Postgraduate Education Committee reviewed and edited the content of this curriculum at its meeting on 7/18/07.