Gastroenterology Fellowship Program

Inpatient Gastroenterology and Hepatology Rotations

I. Overview

A. Inpatient Hepatology Service

Penn gastroenterology fellows will be required to rotate through the inpatient hepatology service at the Hospital of the University of Pennsylvania (HUP). This rotation will satisfy the ACGME competency requirements as discussed in the ACGME website and elsewhere in this handbook. The first year fellow will spend around 9 weeks on the inpatient hepatology service at HUP. The inpatient hepatology service will provide fellows with exposure to patients with a variety of acute and chronic liver diseases in the pre and post transplant settings. There will be an adequate number of patients of both sexes and age ranges to satisfy the ACGME requirements. During the inpatient rotation, fellows will acquire expertise in evaluating laboratory tests, imaging studies, endoscopic studies, and liver biopsies. Additionally, first year fellows will be exposed to a variety of patients with portal hypertension and its complications. During the inpatient rotation, fellows will develop expertise in assessing and managing patients with viral hepatitis, autoimmune liver diseases, metabolic liver diseases, alcoholic liver disease, non-alcoholic fatty liver disease, benign and malignant neoplasms of the liver, vascular diseases of the liver, liver diseases unique to pregnancy, drug/toxin-induced liver injury, and acute liver failure. The fellow will demonstrate competence in the comprehensive assessment and management of patients who are high on the transplant waiting list either as status 1 or by model for end-stage liver disease (MELD) score in the intensive care setting with complications of liver disease including but not limited to refractory ascites, hepatic hydrothorax, hepatorenal and hepatopulmonary syndromes, portopulmonary hypertension, and portal hypertensive bleeding. First year fellows will also gain knowledge in assessing inpatients with acute and chronic liver diseases for transplant evaluation. The fellow will demonstrate competence in the diagnosis and management of patients with hepatocellular carcinoma and cholangiocarcinoma. Gastroenterology fellows will interact closely with other services at HUP including but not limited to general medical services, medical intensive care unit services, and surgical services. Refer to the specific requirements below for details about the inpatient hepatology service.

First year gastroenterology fellows will also be required to rotate on the combined gut and liver services during their rotations at Penn Presbyterian Medical Center.
(PPMC) and The Philadelphia VA Medical Center (PVAMC). Unlike the HUP liver service above, fellows will also be required to see patients with gastrointestinal and pancreaticobiliary diseases in addition to those with liver disease. Fellows will be exposed to patients with the same variety of liver diseases as discussed above. Rotations for first year fellows at PPMC and PVAMC are around 9 weeks in length each.

Second and third year gastroenterology fellows will be required to rotate on either the gut or liver services at HUP during their fellowship. The majority of time for second and third year fellows will be spent performing research in the basic science or Master’s in Clinical Epidemiology (MSCE) tracks through NIH-sponsored T-32 training grants. Consequently, second year fellows will spend approximately 2 weeks, and third year fellows will spend approximately 4 weeks on service in order to limit their clinical time as mandated by the NIH-sponsored training grants.

**B. Inpatient Gastroenterology (GUT) Service**

First year gastroenterology fellows will be required to rotate through the inpatient gut service at HUP. This rotation will satisfy the ACGME competency requirements as discussed in the ACGME website and elsewhere in this handbook. The first year fellow will spend approximately 18 weeks on the inpatient gut service at HUP. The inpatient gut service will provide fellows with exposure to patients with a variety of gastrointestinal and pancreaticobiliary diseases. There will be an adequate number of patients of both sexes and age ranges to satisfy the ACGME requirements. During the inpatient rotation, first year fellows will acquire expertise in evaluating laboratory tests, imaging studies, endoscopic studies, and liver biopsies on their patients with gastrointestinal and pancreaticobiliary diseases.

Fellows will have intense exposure to disorders including but not limited to acute and chronic abdominal pain, benign and malignant esophageal diseases, dyspepsia, nausea and vomiting, diarrhea, intestinal gas, fecal incontinence, constipation, variceal and non-variceal gastrointestinal bleeding, jaundice, nutritional assessment, eating disorders, obesity, food allergies, gastrointestinal malignancies, vascular lesions of the gastrointestinal tract, gastrointestinal and hepatic diseases in the pregnant patient, radiation injury, complications of gastrointestinal endoscopy, GERD, gastrointestinal motor disorders, gastric secretion, helicobacter pylori, gastritis and gastropathies, peptic ulcer disease, pancreatic secretion, acute and chronic pancreatitis, pancreatic neoplasms, bile secretion, gallstone and gallbladder disorders, small bowel and colonic secretion, water and electrolyte transport, malabsorption, short bowel syndrome, celiac sprue, Whipple’s disease, infectious diarrhea, inflammatory
bowel disease, appendicitis, diverticular disease, irritable bowel syndrome, intestinal obstruction and ileus, acute and chronic pseudoobstruction, intestinal polyps, and diseases of the anorectum.

First year gastroenterology fellows will also be required to rotate on the combined gut and liver services during their rotations at PPMC and PVAMC. Unlike the HUP gut service above, fellows will also be required to see patients with liver diseases in addition to those with gastrointestinal and pancreaticobiliary diseases. Fellows will be exposed to patients with the same variety of gastrointestinal and pancreaticobiliary diseases as discussed above. Rotations for first year fellows at PPMC and PVAMC are around 9 weeks in length each.

Second and third year gastroenterology fellows will be required to rotate on either the gut or liver services at HUP during their fellowship. The majority of time for second and third year fellows will be spent performing research in the basic science or Master’s in Clinical Epidemiology (MSCE) tracks through NIH-sponsored T-32 training grants. Consequently, second year fellows will spend approximately 2 weeks, and third year fellows will spend approximately 4 weeks on service in order to limit their clinical time as mandated by the NIH-sponsored training grants.

II. Specific Information about Inpatient Rotations

A. Inpatient Hepatology Service

During the inpatient hepatology rotations at HUP, PPMC, and PVAMC, fellows will be exposed to an array of clinical and didactic experiences. Fellows will be expected to participate in daily teaching and management rounds that satisfy the ACGME competency requirements. These rounds will be patient-based sessions in which current cases of acute and chronic liver disease with or without complications of portal hypertension are presented. Clinical data, laboratory tests, imaging studies, endoscopic studies, and liver biopsy results will be discussed. The fellow will have access to all relevant electronic data on the HUP, PPMC, and PVAMC computer systems. Furthermore, these rounds are used to address the pathophysiology and differential diagnosis of liver diseases whereby management decisions are made. The appropriate use of technology including but not limited to routine laboratory investigation, invasive and non-invasive imaging studies, liver biopsies, and advanced endoscopic procedures pertaining to patients with liver diseases will be stressed. The incorporation of evidence and patient values in clinical decision making and disease prevention will also be emphasized.

The requirements of inpatient attending physicians and gastroenterology fellows will include assessment and management of patients with acute and chronic
hepatobiliary disorders admitted to the inpatient hepatology service at HUP and other services at PPMC and PVAMC. There are no dedicated inpatient hepatology services at PPMC and PVAMC. Hence, gastroenterology fellows and attending physicians serve as consultants at these institutions. Please refer to the Division of Gastroenterology web site for a list of hepatology physicians at HUP, PPMC, and PVAMC. Patients may be admitted by other hepatology physicians or through the emergency room at HUP to the inpatient liver service.

In addition to the assessment and management of patients admitted to the inpatient service, the fellow will be expected to act as a consultant to other services at HUP. New consults will be seen by gastroenterology fellows, housestaff, or medical students rotating on the inpatient hepatology service at HUP and the consult services at PPMC and PVAMC. All new consults will be discussed with the attending hepatologist rotating on the inpatient and/or consultative liver services. Additionally, the gastroenterology fellow will interact with the inpatient nurse practitioner at HUP to coordinate transfer of patients from outside institutions with acute and chronic liver diseases who need routine medical care or evaluation for transplantation. Fellows will not be required to provide routine intravenous, phlebotomy, or messenger/transporter services at any of the teaching institutions. The fellow’s service responsibilities will be limited to patients for whom the teaching service has diagnostic and therapeutic responsibilities. The admission and continuing care of patients by fellows will be limited to those patients on the respective teaching services at HUP, PPMC, and PVAMC.

Fellows and attending physicians rotating on the inpatient hepatology service at HUP will be expected to present relevant inpatients to the weekly transplant selection committee. This is a multidisciplinary conference that includes hepatologists, transplant surgeons, transplant coordinators, transplant social workers and psychiatrists, transplant financial counselors, nutritionists, transplant surgery fellows, medical housestaff, medical students, and other invited guests. The purpose of participation by the inpatient team is to update the committee of patients who are currently listed for transplantation or who are in need of transplant evaluation.

During the inpatient hepatology service rotations at HUP, PPMC, and PVAMC, fellows will be expected to perform endoscopic procedures, liver biopsies, and paracentesis under the supervision of the inpatient attending physicians. The fellow will be expected to perform esophagogastroduodenoscopy (EGD) with or without sclerosis/banding of esophageal varices and injection sclerotherapy or thermal coagulation of non-portal hypertensive bleeding lesions. Other indications for EGD may also arise during the inpatient rotations. Fellows will also be expected to perform colonoscopy relevant to patients with acute and chronic liver diseases as the need arises. In addition, fellows will be expected to perform percutaneous liver biopsy during their rotations as the need arises. Fellows on the inpatient service at HUP will also participate in weekly pathology sessions to
review liver biopsies under the direction of Emma Furth, M.D., Professor of Pathology and Laboratory Medicine. Participation in procedures will satisfy the requirements set forth by ABIM, ACGME, and the Curricular Guidelines for Training in gastroenterology. Refer to other portions of the handbook and the ABIM and ACGME websites about specific requirements for procedures.

The inpatient liver service at HUP and the combined gut/liver consultative services at PPMC and PVAMC will serve as vital sources of instruction for the fellow. Second year Penn medical students, subinterns, medical interns and residents have rotations on these services. Daily rounds with the inpatient liver team at HUP or the combined gut/liver consultative services at PPMC and PVAMC will occur to address pertinent patient assessment and management issues and to discuss topics relevant to hepatology and transplant hepatology. A dedicated inpatient nurse practitioner at HUP also participates in this service. The gastroenterology fellow will participate in, and will be asked to orchestrate these rounds as part of the learning experience at all 3 centers.

Fellows at HUP will be expected to participate in inpatient lectures pertaining to hepatology and transplant hepatology. These lectures are offered to medical students and housestaff as part of the Residency Scholars’ Program at Penn. These 30 minute informal lectures introduce housestaff and medical students rotating on the liver service to different subjects related to liver disease. Fellows on the HUP inpatient liver service will be expected to give occasional lectures to students and housestaff as part of their required rotations. Up to date handouts are usually distributed during these sessions.

In addition to the different educational sessions above, fellows rotating on the inpatient hepatology service at HUP will be expected to attending weekly hepatology conferences, gastroenterology and hepatology journal clubs, gastroenterology clinical case conferences and grand rounds, and hepatobiliary tumor conferences.

When the fellow rotates on the inpatient hepatology service at HUP or the combined gut/consultative services at PPMC and PVAMC, the fellow will expected to be “on call” during these rotations. There will be no in-house call. The fellow will be expected to be available for questions and or consultation regarding patients with liver disease. The fellow will be available to inpatient hepatology attending physicians, inpatient gastroenterology attending physicians, and other health care personnel within HUP, PPMC, PVAMC, and outside The University of Pennsylvania Health Care System (UPHS). Refer to other sections of this handbook and the ACGME and UPHS websites about the specifics regarding duty hour requirements, on-call, and moonlighting activities. Additional information about the Penn gastroenterology fellowship program can be found on the Division of Gastroenterology website.
B. Inpatient Gastroenterology (GUT) Service

During the inpatient gastroenterology (GUT) rotations, fellows will be exposed to an array of clinical and didactic experiences. As with the inpatient hepatology service at HUP and the combined gut/liver services at PPMC and PVAMC, fellows will be expected to participate in daily teaching and management rounds that satisfy the ACGME competency requirements. These rounds will be patient-based sessions in which current gastrointestinal and pancreaticobiliary cases are presented. Clinical data, laboratory tests, imaging studies, endoscopic studies, and biopsy results will be discussed. The fellow will have access to all relevant electronic data on the HUP, PPMC, and PVAMC computer systems. Furthermore, these rounds are used to address the pathophysiology and differential diagnosis of gastrointestinal and pancreaticobiliary diseases relevant to gastroenterology whereby management decisions are made. The appropriate use of technology including but not limited to routine laboratory investigation, invasive and non-invasive imaging studies, biopsies, and advanced endoscopic procedures pertaining to patients with gastrointestinal and pancreaticobiliary diseases will be addressed. The incorporation of evidence and patient values in clinical decision making and disease prevention will also be emphasized.

The requirements of inpatient gastroenterology attending physicians and gastroenterology fellows will include assessment and management of patients with gastrointestinal and pancreaticobiliary diseases at HUP, PPMC, and PVAMC. Please refer to the list of gastroenterology attending physicians on the Division of Gastroenterology website. The gastroenterology fellow will be expected to provide input regarding medical assessment and management of patients with gastrointestinal and pancreaticobiliary diseases while on the service. These patients may be admitted by gastroenterology attending physicians or through the emergency room. In addition to the assessment and management of patients admitted to the inpatient gut service, the fellow will be expected to act as a consultant to other services within HUP, PPMC, and PVAMC and provide medical input as it pertains to gastroenterology. New consults will be seen by gastroenterology fellows, housestaff, or medical students rotating on the inpatient gut service at HUP or the combined gut/liver services at PPMC and PVAMC. All new consults will be discussed with the attending gastroenterologist rotating on the inpatient service at these institutions. The fellow’s service responsibilities will be limited to patients for whom the teaching service has diagnostic and therapeutic responsibilities. The admission and continuing care of patients by fellows will be limited to those patients on the teaching gut services at HUP, PPMC, and PVAMC.

During the inpatient gut rotation at HUP and the combined gut/liver services at PPMC and PVAMC, gastroenterology fellows will be expected to perform endoscopic procedures, liver biopsies, and paracentesis under the supervision of the inpatient gastroenterology or hepatology attending physician. The fellow will be expected to perform esophagogastroduodenoscopy (EGD) with or without
sclerosis/banding of esophageal varices and injection sclerotherapy or thermal coagulation of non-portal hypertensive bleeding lesions. Other indications for EGD may also arise during the inpatient rotation. Fellows will also be expected to perform colonoscopy relevant to patients on the different services as the need arises. Participation in procedures will satisfy the requirements set forth by ABIM and ACGME. Refer to other portions of the handbook and the ABIM and ACGME websites about specific requirements for procedures. Fellows will also participate in weekly pathology sessions to review liver and gastrointestinal biopsies under the direction of Emma Furth, M.D., during their gut rotation at HUP.

The inpatient gut service at HUP and the combined gut/liver services at PPMC and PVAMC will serve as vital sources of instruction for the gastroenterology fellow. Penn medical students and medical housestaff have required rotations at HUP, PPMC, and PVAMC. Daily rounds with the respective teams will occur to address pertinent patient assessment and management issues and to discuss topics relevant to gastroenterology. The gastroenterology fellow will gain experience in interacting with gastroenterology attending physicians, medical interns and residents, and medical students during their rotations on the different gut services.

In addition to the different educational sessions above, fellows rotating on the gut service at HUP, PPMC, and PVAMC will be expected to attending weekly gastroenterology journal clubs, gastroenterology clinical case conferences and grand rounds, and core curriculum gastroenterology conferences. Additionally, the fellow may also elect to attend the different conferences and seminars offered by other services within the Division of Gastroenterology.

When the fellow rotates on the gut services of HUP, PPMC, and PVAMC, the fellow will expected to be “on call” during the rotation. There will be no in-house call. The fellow will be expected to be available for questions and or consultation regarding patients with gastrointestinal and pancreaticobiliary diseases. The fellow will be available to inpatient gastroenterology and hepatology attending physicians, transplant surgical attending physicians, transplant surgery fellows, and other health care personnel within HUP, PPMC, PVAMC, and outside the institution. Refer to other sections of this handbook and the UPHS web site about the specifics regarding duty hour requirements, on-call, and moonlighting activities.