

MU Inpatient Consult Rotation

I. Description of Rotation and Educational Goal: This is a four-week rotation in which GI fellows gain exposure and acquire expertise in the evaluation and management of adult patients with a broad range of acute and chronic GI/liver problems while serving as consultants on University Hospital inpatients. Fellows learn how to effectively function in the role of a consultant as they interact with patients (and their families), the primary team, and other health care providers. Fellows also participate in an array of diagnostic and therapeutic endoscopic procedures, and in the supervision and teaching of residents and medical students. All patient care activities are supervised by an attending gastroenterologist assigned to inpatient activities at the University. During this rotation, fellows also attend their own once-weekly afternoon continuity clinic and attend the late afternoon GI conferences.

II. Level of Supervision: The fellow is supervised by a designated inpatient attending physician. The attending makes work/teaching rounds with the fellow every weekday. All new consults are presented to the attending, who then sees the patient with the fellow and verifies key portions of the history and physical exam. The fellow also discusses follow-up patients with the attending, who sees those patients for which it is appropriate. The attending physician also observes all of the endoscopic procedures that the fellow performs. The level-specific responsibilities of fellows as they progress in their training is discussed in the next section (section III).

III. Level-Specific Responsibilities:

- The rotation is appropriate for first, second and third-year GI fellows, with increasing responsibility given as training progresses.
- On attending rounds, all new consults are seen by the attending physician, who verifies key portions of the patient's history and physical exam. Less verification by the attending is needed as the trainee's competence improves over time.
- By late in the second year of training and during the third-year of training, the fellow should be able to increasingly take charge of the patient-care aspects of the consult team, and the supervision and teaching of more junior fellows, residents and medical students.
- During the rotation, trainees gain technical and interpretative skills in the performance of endoscopic procedures, under the direct supervision of an attending physician. Early on, trainees perform procedures with ongoing feedback from the attending. As the fellow becomes increasingly proficient, he/she will be able to perform the procedure without the need for constant feedback. The attending will just be able to observe, and offer constructive comments when needed.
- Senior fellows will be competent to perform basic GI procedures independently (recognizing that the attending still needs to supervise/observe them for billing and legal reasons). Competency in individual procedures generally comes late in the second-year of fellowship or during the third year.

- The complexity of procedures performed by the fellow will also increase during the course of the fellowship (e.g. endoscopic treatment of bleeding lesions), and is individualized based on the trainee's skills.
- Senior fellows will also be able to assist in the teaching of basic procedures to first-year GI fellows.

IV. Competency-Based Objectives:

Patient Care

Goal: Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Objectives & Competencies:

- While on service, fellows will function as primary consultants to referring physicians and PCPs similar to gastroenterologists in practice.
- Demonstrate the ability to perform an appropriate and accurate H&P, formulate an appropriate patient assessment, and devise an appropriate management plan in patients with GI/liver disease.
- Demonstrate the ability to order the appropriate procedure(s) needed on patients with GI/liver diseases.
- Demonstrate understanding of the indications and performance of standard GI endoscopy procedures and of more advanced procedures (such as ERCP and EUS).
- Demonstrate the ability to obtain an informed consent for procedures.
- Demonstrate increasing competence over time in the performance of standard GI endoscopic procedures (listed below).
- Demonstrate the ability to follow and appropriately manage patients on the inpatient GI service during the course of hospitalization.
- Demonstrate specific competence in the evaluation, management and prevention of GI-liver conditions including diseases of the esophagus, acid-peptic conditions of the GI tract, motility disorders, irritable bowel syndrome, malnutrition, inflammatory bowel disease, vascular diseases of the GI tract, GI infections, immune GI disorders, pancreatic diseases, acute and chronic liver diseases, GI and liver neoplasms, GI bleeding, genetic disorders of the GI tract, geriatric gastroenterology, surgical conditions of the GI tract, and GI emergencies.

Medical Knowledge

Goal: Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

Objectives & Competencies:

- Demonstrate knowledge of the scientific method of problem solving and evidence-based medicine.
- Demonstrate a comprehensive knowledge of indications, contraindications, limitations, complications, techniques and interpretation of results of the diagnostic and therapeutic procedures used in modern gastroenterology.

- Demonstrate knowledge of basic anatomy, physiology, pathology, molecular biology and pharmacology as it relates to GI and liver diseases seen in hospitalized patients.
- Demonstrate knowledge as it relates to the epidemiology, pathology, clinical presentation, diagnosis, management and social-behavioral aspects of the important diseases of the esophagus, stomach, small intestine, colon, liver, biliary tree and pancreas.
- Demonstrate knowledge of the GI/liver diseases which cause GI emergencies, such as acute GI bleeding, GI foreign bodies, bowel obstruction, hepatic failure, acute cholangitis, and mesenteric insufficiency.
- Demonstrate knowledge of basic nutrition and nutritional disorders as it applies to hospitalized patients.
- Demonstrate knowledge of the pharmacology of the medications used to sedate and anesthetize patients for GI procedures.
- Recognize the indications for obtaining surgical consultation on GI-medical patients.
- Demonstrate knowledge of the surgical procedures used in relation to GI disease and their complications.

Practice-Based Learning and Improvement

Goal: Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.

Objectives & Competencies:

- Identify strengths, deficiencies and limits in one's knowledge and goals, and set learning and improvement goals.
- Incorporate formative evaluation feedback into daily practice.
- Locate, appraise and assimilate evidence from published scientific studies related to the health problems of patients seen.
- Use information technology to optimize learning.
- Participate in the education of patients, families, residents, fellows, and other health professionals.
- Systematically analyze practice, looking for opportunities to use quality improvement methods, and to implement changes with the goal of practice improvement.

Professionalism

Goal: Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Objectives & Competencies:

- Exemplify compassion, integrity and respect for others.
- Show responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate sensitivity to a diverse patient population with regard to gender, age, culture, race, religion, disabilities and sexual orientation.
- Demonstrate appropriate relationships with and boundaries with patients, families, other physicians and health professionals.
- Avoid conflicts of interest and the appearance of conflicts of interest.

- Establish and demonstrate a commitment to lifelong learning.

Interpersonal and Communication Skills

Goals: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

Objectives & Competencies:

- Communicate effectively with patients and families across the broad range of socio-economic and cultural populations that is seen in the University inpatient population.
- Communicate effectively with physicians (including referring physicians) and other health professionals in the context of patient care delivered on the University inpatient service.
- Work as a member of the health care team. Senior fellows should be able to demonstrate team leadership.
- Act as a consultant to other physicians and health professionals.
- Maintain accurate, comprehensive, timely and legible medical records.
- Demonstrate effectiveness as a teacher of the primary inpatient team, housestaff, medical students, and more junior GI fellows.

Systems-Based Practice

Goal: Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

Objectives & Competencies:

- Coordinate inpatient care within the University of Missouri HealthCare system.
- Work with the primary inpatient team and other health professionals to improve patient care quality and enhance patient safety.
- Demonstrate knowledge of cost-benefit analysis and risk-benefit analysis as it applies to gastroenterology and apply it to patient care on the inpatient service.
- Advocate for quality patient care and optimal patient care systems.
- Participate in identifying system errors, and implementing potential systems solutions.

V. Rotation-Specific Skills/Procedures: Perform and become competent in the procedures below. Competency for most fellows in these procedures comes late in the second year of fellowship or during the third year. Senior fellows should be able to assist in the teaching of procedures to first-year fellows, particularly those who are early in their training.

- EGD
- Push enteroscopy
- Esophageal dilation
- Colonoscopy
- Biopsy and polypectomy
- Endoscopic treatment of bleeding lesions
- Percutaneous endoscopic gastrostomy placement
- Retrieval of GI foreign bodies.

- Capsule endoscopy
- Conscious sedation
- Be able to identify the best method of sedation/anesthesia for complex procedures.

VI. Teaching Methods:

- The most important teaching method is case-based discussions by the fellow and the attending physician. These may take place in a conference room, on the inpatient hospital floor, at the bedside, or in the procedure room.
- During the rotation, trainees gain technical and interpretative skills in the performance of an array of endoscopic procedures (see above) under the direct supervision of an attending physician. Early on, trainees watch their attending or senior fellows perform procedures. Then, they perform procedures or portions of procedures with ongoing feedback from the attending. Finally, as the fellow becomes increasingly proficient, he/she will be able to perform procedures without the need for constant feedback. The attending will just be able to observe, and offer constructive comments when needed.
- Discussions also take place between the fellow and attending regarding the indications and appropriateness of procedures, risk/benefit, and how to use the information obtained from the procedure in the patient's overall management.
- Teaching on this rotation is also supplemented by reading assignments, independent self-learning, conference attendance, and conference presentations.
- Fellows will also teach residents and medical students rotating on the GI service. This will further help in the fellows' own learning.

VII. Assessment Methods:

- Ongoing feedback is given to the trainee throughout the rotation. For instance, the attending critiques case presentations, clinical and scientific literature understanding, and management recommendations of the trainee on a case-by-case basis.
- Faculty will be expected to perform at least two ABIM Mini-Clinical Evaluation Exercises (Mini-CEX) on each fellow during each inpatient rotation.
- Procedural competence is assessed by direct observation by the attending physician. Ongoing feedback is given to the fellow during procedures and throughout the rotation. Procedural assessment encompasses technical competence, the ability of the trainee to recognize normal and abnormal findings, and the ability of the trainee to apply the information learned from the procedure to the patient's management plan.
- The numbers of procedures that trainees do is used to establish whether they meet the minimum threshold numbers for assessing competency for an individual procedure. To this end, trainees are required to keep a formal procedure log throughout their fellowship.
- Faculty will be expected to complete at least two colonoscopy procedural competency forms on fellows during the rotation.
- After the first six months of training, fellows should keep a record of how often they reach the cecum during colonoscopy and how often they need assistance from their attending.
- Trainees also undergo a formal written evaluation of their 4-week rotation by those attending physicians whom they worked with. This evaluation looks at the six ACGME

competency areas and procedure skills. Evaluations are discussed with the trainee in a timely fashion at the end of the rotation.

- Once a year, fellow competence is also assessed with a Multi-Source Evaluation (“360 Degree Evaluation”). As part of such evaluations, the six core competencies are assessed by nurses, staff, peers, and patients.

VIII. Educational Resources:

- Sleisenger & Fordtran’s Gastrointestinal and Liver Disease: Pathophysiology, Diagnosis and Management (9th edition). Feldman M, Friedman L, Brandt L (eds). Philadelphia: Elsevier Science, 2010. [Available on-line 24/7.]
- UpToDate Online. [Available on-line 24/7.]
- Fellows have access to practice guidelines and other educational resources of our major national professional organizations, such as the ASGE, AGA, ACG, and AASLD. [Available on-line 24/7.]
- Fellows have access to on-line search engines to identify leading articles published in peer-review journals. [Available on-line 24/7.]
- Fellows have access to our major professional journals, such as Gastroenterology, Gastrointestinal Endoscopy, American Journal of Gastroenterology, and Hepatology. [Available on-line 24/7.]
- Fellows attend a broad array of GI conferences, which take place late in the afternoon on Tuesdays, Wednesdays and Thursdays.

Updated: 5/04/2011

Ambulatory Rotation

I. Description of Rotation and Educational Goal: This is a four-week rotation in which GI fellows gain exposure and acquire expertise in the evaluation and management in the *ambulatory setting* of patients who have a broad range of acute and chronic GI/liver problems. Fellows on this rotation will typically attend 7-9 half-day GI clinics during the week. Most are GI faculty clinics at the Fairview Digestive Health Center, though fellows may also attend one or two afternoon VA clinics as well. The clinics at Fairview run the gambit of being specialized clinics devoted to hepatology, biliary-pancreatic disorders, and IBD, all the way to general gastroenterology. Fellows learn how to effectively function in the role of a consultant in the ambulatory setting where they must learn to be efficient in the use of their time. In each clinic setting, fellows assess patients, and then develop and carry out diagnostic and management plans under the supervision of an attending gastroenterologist. They also prepare notes to document the clinic encounter and provide follow-up to the referring physician and/or the patient's PCP. During this rotation, fellows also attend their own once-weekly afternoon continuity clinic and attend the late afternoon GI conferences.

II. Level of Supervision: This is a rotation that is well-suited to fellows at all levels of training. The fellow is supervised in all clinics by a designated attending physician. The attending physician in University clinics (Fairview Digestive Health Center) will see the patient with the fellow for part of the encounter as part of their supervisory function. The attending physician in VA clinics discusses all clinic patients with the fellow, and may choose to see the more complex or difficult cases.

III. Competency-Based Objectives:

Patient Care

Goal: Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Objectives & Competencies:

- Fellows will function as GI consultants in the clinic (outpatient) setting.
- Demonstrate the ability to manage time efficiently as they see clinic patients.
- Demonstrate the ability to perform appropriate, accurate and efficient H&Ps, to formulate an appropriate patient assessment, and to devise an appropriate management plan in outpatients with GI/liver disease.
- Demonstrate the ability to order the appropriate procedure(s) needed on patients with GI/liver diseases.
- Demonstrate particular competence in the evaluation, management, and prevention (where applicable) of liver diseases, biliary-pancreatic diseases, and inflammatory bowel diseases.
- Demonstrate competence in the ability to evaluate patients for liver transplantation and in the follow-up of patients after transplantation.

- Demonstrate competence in the evaluation, management, and prevention (where applicable) of other GI-liver conditions including diseases of the esophagus, acid-peptic conditions of the GI tract, motility disorders, irritable bowel syndrome, malnutrition, immune GI disorders, GI and liver neoplasms, genetic disorders of the GI tract, geriatric gastroenterology, and women's health issues.

Medical Knowledge

Goal: Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

Objectives & Competencies:

- Demonstrate knowledge of evidence-based medicine.
- Demonstrate knowledge as it relates to the epidemiology, pathology, clinical presentation, diagnosis, management and social-behavioral aspects of the important diseases of the esophagus, stomach, small intestine, colon, liver, biliary tree and pancreas.
- Demonstrate specific knowledge of acute and chronic liver diseases, biliary-pancreatic diseases, and inflammatory bowel disease.
- Demonstrate specific knowledge regarding patients being evaluated for liver transplantation and for following them afterwards.
- Demonstrate knowledge of the pharmacology of the medications used to treat GI and liver diseases.

Practice-Based Learning and Improvement

Goal: Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.

Objectives & Competencies:

- Identify strengths, deficiencies and limits in one's knowledge and goals and set learning and improvement goals.
- Incorporate formative evaluation feedback into daily practice.
- Locate, appraise and assimilate evidence from published scientific studies related to the health problems of patients seen.
- Use information technology to optimize learning.
- Participate in the education of patients, families, residents, fellows, and other health professionals.
- Systematically analyze practice, looking for opportunities to use quality improvement methods, and to implement changes with the goal of practice improvement.

Professionalism

Goal: Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Objectives & Competencies:

- Exemplify compassion, integrity and respect for others.

- Show responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate sensitivity to a diverse patient population with regard to gender, age, culture, race, religion, disabilities and sexual orientation.
- Demonstrate appropriate relationships with and boundaries with patients, families, other physicians and health professionals.
- Avoid conflicts of interest or the appearance of conflicts of interest.
- Establish and demonstrate a commitment to lifelong learning.

Interpersonal and Communication Skills

Goals: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

Objectives & Competencies:

- Communicate effectively with patients and families across the broad range of socio-economic and cultural populations that is seen in the University outpatient population.
- Communicate effectively with physicians (including referring physicians) and other health professionals in the context of patient care delivered on University outpatients.
- Work as a member of the health care team.
- Act as a consultant to other physicians and health professionals.
- Maintain accurate, comprehensive, timely and legible medical records.

Systems-Based Practice

Goal: Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

Objectives & Competencies:

- Coordinate outpatient care within the University of Missouri HealthCare system.
- Demonstrate knowledge of cost-benefit analysis and risk-benefit analysis as it applies to gastroenterology and apply it to patient care on the outpatient service.
- Advocate for quality patient care and optimal patient care systems.
- Participate in identifying system errors, and implementing potential system solutions.

IV. Rotation-Specific Skills: In the clinic setting, where the time to see patients is more limited than it is in the inpatient setting, fellows will become efficient in their clinical assessment and management skills.

V. Teaching Methods:

- The most important teaching method is case-based discussions by the fellow and the attending physician in the clinic.
- Teaching on this rotation is also supplemented by independent self-learning, occasional reading assignments, conference attendance, and conference presentations.

VI. Assessment Methods:

- Ongoing feedback is given to the trainee throughout the rotation. For instance, the attending critiques case presentations, clinical and scientific literature understanding, and management recommendations of the trainee on a case-by-case basis.
- Faculty will be expected to perform at least two ABIM Mini-Clinical Evaluation Exercises (Mini-CEX) on each fellow during each ambulatory rotation.
- Trainees also undergo a formal written evaluation of their 4-week rotation by those attending physicians with whom they worked. This evaluation looks at the six ACGME competency areas. Evaluations are discussed with the trainee in a timely fashion at the end of the rotation.
- Once a year, fellow competence is also assessed with a Multi-Source Evaluation (“360 Degree Evaluation”). As part of such evaluations, the six core competencies are assessed by nurses, staff, peers, and patients.

VII. Educational Resources:

- Sleisenger & Fordtran’s Gastrointestinal and Liver Disease: Pathophysiology, Diagnosis and Management (9th edition). Feldman M, Friedman L, Brandt L (eds). Philadelphia: Elsevier Science, 2010. [Available on-line 24/7.]
- UpToDate Online. [Available on-line 24/7.]
- Fellows have access to practice guidelines and other educational resources of our major national professional organizations, such as the ASGE, AGA, ACG, and AASLD. [Available on-line 24/7.]
- Fellows have access to on-line search engines to identify leading articles published in peer-review journals. [Available on-line 24/7.]
- Fellows have access to our major professional journals, such as Gastroenterology, Gastrointestinal Endoscopy, American Journal of Gastroenterology, and Hepatology. [Available on-line 24/7.]
- Fellows attend a broad array of GI conferences, which take place late in the afternoon on Tuesdays, Wednesdays and Thursdays.

Updated: 5/04/2011

MU Outpatient Endoscopy Rotation

I. Description of Rotation and Educational Goal: This is a four-week rotation designed for fellows during their third year of training or late in their second year. It gives them an endoscopy experience similar to gastroenterologists in practice who perform their outpatient endoscopy in an ambulatory endoscopy center. It is a fast-paced experience that requires that the fellow to already be very experienced in the performance of upper endoscopy, esophageal dilation, colonoscopy and polypectomy. During the rotation, fellows gain additional skill and competence in these procedures at our own outstanding and well-equipped ambulatory endoscopy center located within the Fairview Digestive Health Center. Routine EGDs and colonoscopies are done on healthy or relatively healthy outpatients from 0700 to about 1230 each weekday morning. Fellows have a supervised experience in which they assess patients, obtain informed consents, perform procedures, type endoscopy reports, and speak to and counsel patients and families after the procedures. In the afternoons during this rotation, fellows have time to study, to do research, or sometimes to attend various GI clinics. Fellows also attend their own once-weekly afternoon continuity clinic during the rotation and attend the late afternoon GI conferences.

II. Level of Supervision: This rotation is only offered to fellows who already have an extensive experience in performing standard endoscopy procedures. There is a designated attending physician assigned each morning to the Fairview Digestive Health Center endoscopy lab. The attending closely supervises all procedures that the fellow performs and the other aspects of patient encounters.

III. Competency-Based Objectives:

Patient Care

Goal: Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Objectives & Competencies:

- On this rotation, fellows will function just as gastroenterologists in practice who do endoscopy in modern ambulatory endoscopy centers.
- Demonstrate the ability to appropriately assess patients prior to performing outpatient endoscopy.
- Demonstrate the ability to obtain an informed consent for procedures.
- Demonstrate understanding of the indications and performance of standard GI endoscopy procedures.
- Demonstrate expertise at being able to recognize pathology during upper and lower GI endoscopy.
- Demonstrate expert skills at performing EGD, esophageal dilation, colonoscopy and polypectomy.
- Demonstrate the ability to expertly provide patients with the results of their endoscopies, and to provide follow-up to referring physicians.

Medical Knowledge

Goal: Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

Objectives & Competencies:

- Demonstrate a comprehensive knowledge of indications, contraindications, limitations, complications, techniques and interpretation of results relating to EGD and colonoscopy.
- Demonstrate knowledge of and the ability to recognize the pathology that is found during upper and lower GI endoscopy.
- Know the appropriate practice guidelines that apply to the endoscopic follow-up of polyps, Barrett's esophagus, ulcers, erosive esophagitis and IBD.
- Demonstrate expertise relating to the pharmacology of the medications used to sedate and anesthetize patients for GI endoscopy.

Practice-Based Learning and Improvement

Goal: Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.

Objectives & Competencies:

- Identify strengths, deficiencies and limits in one's knowledge and skills and set learning and improvement goals.
- Incorporate formative evaluation feedback into daily practice.
- Locate, appraise and assimilate evidence from published scientific studies related to the health problems of patients seen.
- Use information technology to optimize learning.
- Participate in the education of patients, families, and other health professionals.
- Systematically analyze practice, looking for opportunities to use quality improvement methods, and to implement changes with the goal of practice improvement.

Professionalism

Goal: Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Objectives & Competencies:

- Exemplify compassion, integrity and respect for others.
- Show responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate sensitivity to a diverse patient population with regard to gender, age, culture, race, religion, disabilities and sexual orientation.
- Demonstrate appropriate relationships with and boundaries with patients, families, other physicians and health professionals.

Interpersonal and Communications Skills

Goals: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

Objectives & Competencies:

- Communicate effectively with patients and families across the broad range of socio-economic and cultural populations that is seen in the University HealthCare population.
- Communicate effectively with referring physicians the results of the procedures performed at Fairview.
- Maintain accurate, comprehensive, timely and legible medical records.

Systems-Based Practice

Goal: Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

Objectives & Competencies:

- Coordinate care on their patients within the University of Missouri HealthCare system as needed.
- Work with the nurses and other health professionals at Fairview to improve patient care quality and enhance patient safety.
- Advocate for quality patient care and optimal patient care systems.
- Participate in identifying system errors, and implementing potential systems solutions.

V. Rotation-Specific Skills/Procedures: Participate and become increasingly expert in the procedures below.

- EGD
- Esophageal dilation
- Colonoscopy
- Polypectomy
- Conscious sedation

VI. Teaching Methods:

- One of the teaching methods employed is case-based discussions by the fellow and the attending physician in the endoscopy center.
- Trainees also gain technical and interpretative expertise in the performance of endoscopy as they receive feedback by their attending physician who observe them.
- Discussions also take place between the fellow and attending regarding the indications and appropriateness of procedures, risk/benefit, and how to use the information obtained from the procedure in the patient's overall management.

VII. Assessment Methods:

- Procedural competence is assessed by direct observation by the attending physician. Ongoing feedback is given to the fellow during procedures and throughout the rotation.

Procedural assessment encompasses technical competence, the ability of the trainee to recognize normal and abnormal findings, and the ability of the trainee to apply the information learned from the procedure to the patient's management plan.

- The attending critiques case presentations, clinical understanding, and management recommendations of the trainee on a case-by-case basis.
- Trainees are required to keep a formal procedure log throughout their fellowship.
- Faculty will be expected to complete at least two colonoscopy procedural competency forms each week that the fellow is on rotation.
- Fellows on this rotation are also expected to keep a record of how often they reach the cecum during colonoscopy and how often they need assistance from their attending.
- Trainees also undergo a formal written evaluation of their 4-week rotation by those attending physicians with whom they worked. This evaluation looks at the six ACGME competency areas and procedure skills. Evaluations are discussed with the trainee in a timely fashion at the end of the rotation.
- Once a year, fellow competence is also assessed with a Multi-Source Evaluation ("360 Degree Evaluation"). As part of such evaluations, the six core competencies are assessed by nurses, staff, peers, and patients.

VIII. Educational Resources:

- Sleisenger & Fordtran's Gastrointestinal and Liver Disease: Pathophysiology, Diagnosis and Management (9th edition). Feldman M, Friedman L, Brandt L (eds). Philadelphia: Elsevier Science, 2010. [Available on-line 24/7.]
- UpToDate Online. [Available on-line 24/7.]
- Fellows have access to practice guidelines and other educational resources of our major national professional organizations, such as the ASGE, AGA, ACG, and AASLD. [Available on-line 24/7.]
- Fellows have access to on-line search engines to identify leading articles published in peer-review journals. [Available on-line 24/7.]
- Fellows have access to our major professional journals, such as Gastroenterology, Gastrointestinal Endoscopy, American Journal of Gastroenterology, and Hepatology. [Available on-line 24/7.]
- Fellows attend a broad array of GI conferences, which take place late in the afternoon on Tuesdays, Wednesdays and Thursdays.

Updated: 5/04/2011

VA Hospital Rotation

I. Description of Rotation and Educational Goal: This is a four-week rotation at the Harry S. Truman VA Hospital in which GI fellows gain exposure and acquire expertise in standard GI endoscopy procedures and in the evaluation and management of adult patients with acute and chronic GI/liver problems. Overall, the experience is weighted heavily toward outpatient gastroenterology practice. Weekday mornings consist largely of performing outpatient endoscopy procedures. Patient activities in the afternoon consist of doing any remaining outpatient procedures, inpatient procedures, performing inpatient consults, and attending GI clinic on Monday afternoon and sometimes on Friday afternoon. Fellows learn how to effectively function in the role of a consultant as they interact with patients (and their families), the primary team, and other health care providers. Fellows see and evaluate patients, and have supervised responsibility for direct patient care, including diagnostic and management planning, order writing, and record keeping. The valuable endoscopy experience is supported by excellent GI lab facilities and nursing support. All patient care activities are directly supervised by a designated attending gastroenterologist. During this rotation, fellows also attend their own once-weekly afternoon continuity clinic and attend the late afternoon GI conferences.

II. Level of Supervision: The fellow is supervised by a designated attending physician assigned to the VA Hospital. The attending physician observes the endoscopic procedures that the fellow performs. The attending also discusses all clinic patients and inpatient consults that the fellow sees. The level-specific responsibility of fellows as they progress in their training is discussed in the section below.

III. Level-Specific Responsibility:

- The rotation is appropriate for first, second and third-year GI fellows, with increasing responsibility given as training progresses.
- During the rotation, trainees gain technical and interpretative skills in the performance of standard endoscopic procedures, under the direct supervision of an attending physician. Early on, trainees perform procedures with ongoing feedback from the attending. As the fellow becomes increasingly proficient, he/she will be able to perform the procedure without the need for constant feedback. The attending will just be able to observe, and offer constructive comments when needed.
- Senior fellows will be competent to perform basic GI procedures independently (recognizing that the attending still needs to provide overall supervision). Competency in individual procedures generally comes late in the second-year of fellowship training or during the third year.
- Senior fellows will also be able to assist in the teaching of basic procedures to first-year GI fellows.
- The GI clinics and inpatient consult service are supervised by an attending gastroenterologist. However, as the fellow progresses in his/her training and demonstrates consistent clinical competence, he/she is given increasing responsibility and independence in the seeing and management of clinic patients and inpatient consults.

IV. Competency-Based Objectives:

Patient Care

Goal: Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Objectives & Competencies:

- While on service, fellows will function as primary consultants to referring physicians and PCPs similar to gastroenterologists in practice.
- Demonstrate the ability to perform an appropriate and accurate H&P, formulate an appropriate patient assessment, and devise an appropriate management plan in patients with GI/liver disease.
- Demonstrate the ability to order the appropriate procedure(s) needed on patients with GI/liver diseases.
- Demonstrate understanding of the indications and performance of standard GI endoscopy procedures and of more advanced procedures (such as ERCP and EUS).
- Demonstrate the ability to obtain an informed consent for procedures.
- Demonstrate increasing competence over time in the performance of standard GI endoscopic procedures (listed below).
- Demonstrate the ability to communicate results of endoscopic biopsies to patients via letters, and to recommend appropriate follow-up.
- Demonstrate the ability to follow and appropriately manage patients on a GI inpatient service during the course of a hospitalization.
- Demonstrate the ability to follow and appropriately manage patients being followed in the VA GI clinic during the course of time..
- Demonstrate specific competence in the evaluation, management and prevention of GI-liver conditions including diseases of the esophagus, acid-peptic conditions of the GI tract, motility disorders, irritable bowel syndrome, malnutrition, inflammatory bowel disease, vascular diseases of the GI tract, GI infections, immune GI disorders, pancreatic diseases, acute and chronic liver diseases, GI and liver neoplasms, GI bleeding, genetic disorders of the GI tract, geriatric gastroenterology, surgical conditions of the GI tract, and GI emergencies.

Medical Knowledge

Goal: Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

Objectives & Competencies:

- Demonstrate knowledge of the scientific method of problem solving and evidence-based medicine.
- Demonstrate a comprehensive knowledge of indications, contraindications, limitations, complications, techniques and interpretation of results of the diagnostic and therapeutic procedures used in modern gastroenterology.
- Demonstrate knowledge of basic anatomy, physiology, pathology, molecular biology and pharmacology as it relates to GI and liver diseases seen in hospitalized and clinic patients.

- Demonstrate knowledge as it relates to the epidemiology, pathology, clinical presentation, diagnosis, management and social-behavioral aspects of the important diseases of the esophagus, stomach, small intestine, colon, liver, biliary tree and pancreas.
- Demonstrate knowledge of basic nutrition and nutritional disorders as it applies to hospitalized patients.
- Demonstrate knowledge of the pharmacology of the medications used to sedate and anesthetize patients for GI procedures.
- Recognize the indications for obtaining surgical consultation on GI-medical patients.
- Demonstrate knowledge of the surgical procedures used in relation to GI disease and their complications.

Practice-Based Learning and Improvement

Goal: Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.

Objectives & Competencies:

- Identify strengths, deficiencies and limits in one's knowledge and goals and set learning and improvement goals.
- Incorporate formative evaluation feedback into daily practice.
- Locate, appraise and assimilate evidence from published scientific studies related to the health problems of patients seen.
- Use information technology to optimize learning.
- Participate in the education of patients, families, residents, fellows, and other health professionals.
- Systematically analyze practice, looking for opportunities to use quality improvement methods, and to implement changes with the goal of practice improvement.

Professionalism

Goal: Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Objectives & Competencies:

- Exemplify compassion, integrity and respect for others.
- Show responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate sensitivity to a diverse patient population with regard to gender, age, culture, race, religion, disabilities and sexual orientation.
- Demonstrate appropriate relationships with and boundaries with patients, families, other physicians and health professionals.
- Avoid conflicts of interest and the appearance of conflicts of interest.
- Establish and demonstrate a commitment to lifelong learning.

Interpersonal and Communication Skills

Goals: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

Objectives & Competencies:

- Communicate effectively with patients and families across the broad range of socio-economic and cultural populations.
- Communicate effectively with physicians (including referring physicians) and other health professionals in the context of patient care delivered at the VA.
- Work as a member of the health care team. Senior fellows should be able to demonstrate team leadership.
- Act as a consultant to other physicians and health professionals.
- Maintain accurate, comprehensive, timely and legible medical records.
- Demonstrate effectiveness as a teacher of the primary inpatient team, housestaff, medical students, and more junior GI fellows.

Systems-Based Practice

Goal: Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

Objectives & Competencies:

- Coordinate outpatient and inpatient care within the VA Health Care system.
- Work with the primary inpatient team and other health professionals to improve patient care quality and enhance patient safety.
- Demonstrate knowledge of cost-benefit analysis and risk-benefit analysis as it applies to gastroenterology and apply it to patient care on the inpatient service.
- Advocate for quality patient care and optimal patient care systems.
- Participate in identifying system errors, and implementing potential systems solutions.

V. Rotation-Specific Skills/Procedures: Perform and become competent in the procedures below. Competency for most fellows in these procedures comes late in the second year of fellowship or during the third year. Senior fellows should be able to assist in the teaching of procedures to first-year fellows, particularly early in their training.

- EGD
- Push enteroscopy
- Esophageal dilation
- Colonoscopy
- Biopsy and polypectomy
- Endoscopic treatment of bleeding lesions
- Percutaneous endoscopic gastrostomy placement
- Retrieval of GI foreign bodies.
- Conscious sedation

VI. Teaching Methods:

- The most important teaching method is case-based discussions by the fellow and the attending physician. These may take place in the GI office, on the inpatient hospital floor, at the bedside, or in the procedure room.
- During the rotation, trainees gain technical and interpretative skills in the performance of an array of endoscopic procedures (see above) under the direct supervision of an attending physician. Early on, trainees perform procedures with ongoing feedback from the attending. As the fellow becomes increasingly proficient, he/she will be able to perform procedures without the need for constant feedback. The attending will just be able to observe, and offer constructive comments when needed. Full competency (and the ability to perform the procedures independently) for most fellows in these procedures comes late in the second year of fellowship or during the third year.
- Discussions also take place between the fellow and attending regarding the indications and appropriateness of procedures, risk/benefit, and how to use the information obtained from the procedure in the patient's overall management.
- Teaching on this rotation is also supplemented by reading assignments, independent self-learning, conference attendance, and conference presentations.

VII. Assessment Methods:

- Ongoing feedback is given to the trainee throughout the rotation. For instance, the attending critiques case presentations, clinical and scientific literature understanding, and management recommendations of the trainee on a case-by-case basis.
- Faculty will be expected to perform at least two ABIM Mini-Clinical Evaluation Exercises (Mini-CEX) on each fellow during each inpatient rotation.
- Procedural competence is assessed by direct observation by the attending physician. Ongoing feedback is given to the fellow during procedures and throughout the rotation. Procedural assessment encompasses technical competence, the ability of the trainee to recognize normal and abnormal findings, and the ability of the trainee to apply the information learned from the procedure to the patient's management plan.
- The numbers of procedures that trainees do is used to establish whether they meet the minimum threshold numbers for assessing competency for an individual procedure. To this end, trainees are required to keep a formal procedure log throughout their fellowship.
- Faculty will be expected to complete at least two colonoscopy procedural competency forms on fellows during the rotation.
- After the first 6 months of training, fellows should keep a record of how often they reach the cecum during colonoscopy and how often they need assistance from their attending.
- Trainees also undergo a formal written evaluation of their 4-week rotation by those attending physicians with whom they worked. This evaluation looks at the six ACGME competency areas and procedure skills. Evaluations are discussed with the trainee in a timely fashion at the end of the rotation.
- Once a year, fellow competence is also assessed with a Multi-Source Evaluation ("360 Degree Evaluation"). As part of such evaluations, the six core competencies are assessed by nurses, staff, peers, and patients.

VIII. Educational Resources:

- Sleisenger & Fordtran's Gastrointestinal and Liver Disease: Pathophysiology, Diagnosis and Management (9th edition). Feldman M, Friedman L, Brandt L (eds). Philadelphia: Elsevier Science, 2010. [Available on-line 24/7.]
- UpToDate Online. [Available on-line 24/7.]
- Fellows have access to practice guidelines and other educational resources of our major national professional organizations, such as the ASGE, AGA, ACG, and AASLD. [Available on-line 24/7.]
- Fellows have access to on-line search engines to identify leading articles published in peer-review journals. [Available on-line 24/7.]
- Fellows have access to our major professional journals, such as Gastroenterology, Gastrointestinal Endoscopy, American Journal of Gastroenterology, and Hepatology. [Available on-line 24/7.]
- Fellows attend a broad array of GI conferences, which take place late in the afternoon on Tuesdays, Wednesdays and Thursdays.

Updated: 7/18/2011

Hepatobiliary-Pancreatic Diseases & Advanced Procedures Rotation

I. Description of Rotation and Educational Goal: This is a four-week rotation primarily intended for third-year GI fellows. Exposure to patients with hepatobiliary and pancreatic diseases and to advanced procedures will occur at University Hospital and at the VA Hospital. Patients will be seen in hepato-biliary/pancreatic clinics and in the endoscopy units of both centers. While on this rotation, fellows will acquire a broad understanding of the evaluation and management of patients with diseases of the liver, biliary tract, and pancreas. Fellows will also participate in some advanced hepatobiliary procedures, including endoscopic retrograde cholangio-pancreatography (ERCP) and endoscopic ultrasound (EUS), and other evolving cutting-edge procedures, such as endoscopic mucosal resection (EMR), ablative procedures for Barrett's esophagus, and balloon enteroscopy. However, the rotation is not to be confused with an advanced endoscopy fellowship, which may be necessary for a trainee to gain full competency in some complex procedures such as ERCP and EUS. Fellows will also participate in the educational conferences that relate specifically to this rotation (detailed later).

II. Competency-Based Objectives:

Patient Care

Goal: Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment and prevention of health problems related to liver, biliary and pancreatic disease and to advanced endoscopic procedures.

Competencies: Fellows are expected to--

- Perform detailed evaluation of patients with liver, biliary tract and pancreatic diseases, and plan appropriate management.
- Recognize symptoms and physical signs related to hepatobiliary and pancreatic disease.
- Demonstrate knowledge for the appropriate procedure(s) to be performed on patients with hepatobiliary and pancreatic disease.
- Demonstrate knowledge of common diseases that require immediate care and workup associated with liver, biliary tract and pancreatic diseases, such as variceal bleeding, spontaneous bacterial peritonitis, acute liver failure, acute pancreatitis, acute cholecystitis and acute cholangitis.
- While on service, fellows act as primary consultants to referring physicians and primary care providers, and definitively arrange prompt and appropriate procedures after discussion with the supervising attending physician.
- While on the service, fellows will round on all inpatients with hepatobiliary and pancreatic diseases and discuss patient care and management with attending GI physicians.
- Attend hepatobiliary-pancreatic clinics at the Fairview Digestive Health Center.
- Gain understanding in the indications and performance of other advanced endoscopic procedures, such as EMR, Barrett's esophagus ablative procedures, and balloon enteroscopy.

- Obtain informed consent on advanced procedures after a review with the patient of the procedure(s), risks, benefits and alternative therapeutic options.
- Participate in advanced endoscopic procedures, such as ERCP, EUS, pancreatic cyst-gastrostomy, EMR, Barrett's esophagus ablation, balloon enteroscopy, and GI stent placement.

Objectives:

- Participate in ERCP, GI EUS, EMR, Barrett's esophagus ablation, balloon enteroscopy and GI stent placement as determined by the preceptor physician(s).
- Gain exposure to ERCP and EUS equipment/devices including guide-wires, needles, catheters, sphincterotomes, dilators, retrieval devices, and lithotriptors.
- Participate in retrieval of small common bile duct stones, biliary drainage, and placement of biliary-pancreatic stents.
- Gain experience in the use of fluoroscopy at ERCP and the interpretation of images.
- Participate in diagnostic EUS of the biliary and pancreatic system, to gain experience in the interpretation of EUS images.

Medical Knowledge

Goal: Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care.

Competencies: Fellows are expected to-

- Demonstrate knowledge of basic anatomy, physiology, pharmacology and pathology as it relates to liver, hepatobiliary and pancreatic diseases.
- Understand the indications and contraindications of the major hepatobiliary-pancreatic procedures and other evolving advanced procedures, such as EMR, Barrett's ablation, and balloon enteroscopy.
- Understand the need for anesthesia care in advanced procedures.
- Understand the differences in diagnosis and management of neoplastic disease of the hepatobiliary and pancreatic systems including "benign" hepatic tumors, malignant tumors (hepatocellular carcinoma, cholangiocarcinoma, pancreatic cancer) and endocrine tumors of the pancreas.
- Understand the medical management of hepatobiliary and pancreatic disease including indications for palliative endoscopic therapies such as metal stent placement, celiac plexus therapy and cystgastrostomy.
- Demonstrate knowledge of the scoring systems and models used to classify the severity of liver, biliary and pancreatic disease such as Child-Pugh score, MELD score, APACHE score, Rosemont criteria and Balthazar classification.

Objectives:

- Present a power point presentation that overviews an approved, selected topic in hepatobiliary and pancreatic disease.
- Discuss at least one review article or a recent peer-reviewed publication of hepatobiliary and pancreatic disease.
- Participate in the monthly GI Quality and Procedure Complication Review Committee.
- Participate in the monthly hepatobiliary multidisciplinary conference.

Professionalism

Goal: Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Competencies: Fellows are expected to--

- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate accountability to patients, society, and the profession.

Objectives:

- Obtain satisfactory or above ratings on physician and nursing completed evaluations in the category of professionalism.

Interpersonal and Communication Skills

Goal: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and health-care professionals.

Competencies: Fellows are expected to--

- Communicate effectively with their attending, patients, their families, colleagues, referring physicians and other members of the health care team concerning procedure appropriateness, informed consent, safety issues, and results of tests.
- Maintain comprehensive, timely and legible medical records.

Objectives:

- Obtain satisfactory or above ratings on physician and nursing completed evaluations in the area of communication.
- Production of accurate and appropriate procedural reports.
- Follow up on laboratory test results and inform patient and referring physicians with the results.

III. Rotation-Specific Skills/Procedures: Observe and participate in—

- ERCP procedures, including sphincterotomy, biliary drainage and the placement of biliary/pancreatic stents.
- EUS procedures, including fine-needle aspiration/biopsies.
- Pancreatic cyst-gastrostomy procedures.
- EMR, Barrett's esophagus ablation procedures, balloon enteroscopy, and GI tract stent placement, depending on the interest of the fellow.
- Identifying the best method of sedation/anesthesia for advanced procedures.

IV. Teaching Methods: The most important teaching method is case-based discussions by the fellow and the attending physician(s). These take place in the endoscopy labs, in the clinic, and sometimes on the inpatient ward.

During the rotation, trainees may gain technical and interpretative skills in the performance of advanced endoscopic procedures under the direct supervision of an attending physician. Early on, trainees watch their attending physician perform procedures. Then, they perform procedures or portions of procedures with ongoing feedback from the attending. Finally, as the fellow becomes increasingly proficient, he/she may be able to perform certain procedures without the need for constant feedback. The attending will just available able to observe, and offer constructive comments when needed.

Discussions also take place between the fellow and attending regarding the indications and appropriateness of procedures, risk/benefit, and how to use the information obtained from the procedure in the patient's overall management.

- Teaching on this rotation is also supplemented by reading assignments, independent self-learning, conference attendance, and conference presentations.

V. Assessment Methods:

- Ongoing feedback is given to the trainee throughout the rotation. For instance, the attending critiques case presentations, clinical and scientific literature understanding, and management recommendations of the trainee on a case-by-case basis.
- Trainees also undergo a formal written evaluation of their 4-week rotation by those attending physicians with whom they worked. This evaluation looks at the six ACGME competency areas and procedure skills. Evaluations are discussed with the trainee in a timely fashion at the end of the rotation.
- Procedural competence is assessed by direct observation by the attending physician. Ongoing feedback is given to the fellow during procedures and throughout the rotation. Procedural assessment encompasses technical competence, the ability of the trainee to recognize normal and abnormal findings, and the ability of the trainee to apply the information learned from the procedure to the patient's management plan.
- The numbers of procedures that trainees do is used to establish whether they meet the minimum threshold numbers for assessing competency for an individual procedure. To this end, trainees are required to keep a formal procedure log throughout their fellowship. The procedure log should include the date of the procedure, type of procedure, indication, diagnosis, biopsy results, and the supervisor.
- Once a year, fellow competence is also assessed with a Multi-Source Evaluation ("360 Degree Evaluation"). As part of such evaluations, the six core competencies are assessed by nurses, staff, peers, and patients.

VI. Level of Supervision: The rotation has one or more designated attending physicians who are responsible for the supervision of the trainee throughout the rotation.

VII. Educational Resources:

- Sleisenger & Fordtran's Gastrointestinal and Liver Disease: Pathophysiology, Diagnosis and Management (9th edition). Feldman M, Friedman L, Brandt L (eds). Philadelphia: Elsevier Science, 2010. [Available on-line 24/7.]
- UpToDate Online. [Available on-line 24/7.]
- Fellows have access to practice guidelines and other educational resources of our major national professional organizations, such as the ASGE, AGA, ACG, and AASLD. [Available on-line 24/7.]
- Fellows have access to on-line search engines to identify leading articles published in peer-review journals. [Available on-line 24/7.]

- Fellows have access to our major professional journals, such as Gastroenterology, Gastrointestinal Endoscopy, American Journal of Gastroenterology, and Hepatology. [Available on-line 24/7.]
- Educational conferences including the monthly Hepatobiliary Multidisciplinary Conference; monthly GI Quality and Procedure Complication Review Committee meeting; monthly GI-Surgery Conference; and the monthly GI-Pathology Conference.

Revised 5/04/2011

Research Rotation

I. Description of Rotation and Educational Goals: During the course of their fellowship training, fellows are expected to advance their knowledge of the principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care. To that end, clinical GI fellows will get adequate time during their 3 years of training to participate in mentored fellow-appropriate research and scholarship. Fellows are expected to develop and conduct at least one clinical or basic science research project, tailored to their interests and future career plans. It is anticipated that the research time will be productive as defined below. The research/scholarly portion of the GI fellowship is also supplemented by the fellows' participation in a monthly GI Journal Club and monthly GI Research Conference. Some fellows may also supplement their scholarly activities by publishing book chapters, review articles, or case reports in peer-reviewed journals.

II. Educational Objectives: The following are the educational objectives of this rotation/experience:

- Trainees will gain research experience by answering a clinical or basic research question under the supervision of a qualified faculty member.
- Trainees will learn how to formulate a research question, how to design a project to answer the question, and experience/instruction in research and statistical methodology, ethical conduct of research, responsible use of informed consent, and interpretation of data.
- Trainees will gain experience in writing up their research projects in abstract form and manuscripts, and presenting their projects orally and/or in poster form.
- Participation in monthly journal clubs and research conferences will help give trainees first-hand experience with critical analysis of scientific papers and research methodology.
- Trainees who intend to develop an academic career will be paired with a research advisor and mentor whose mission is to nurture the trainee to become an independent investigator. Fellows can choose mentors from among the faculty in the division or from other divisions/departments. Joint mentoring involving GI and non-GI faculty is encouraged to supervise fellow-appropriate GI-focused clinical or basic research projects.
- Fellow research is expected to be productive and result, at the least, in publication of an abstract in a peer-review journal and presentation at a national GI meeting (either orally or in poster form). Projects must also be written up in manuscript form and submitted to a peer-review journal. It is hoped that in most instances that the project will be published in a peer-review journal.

III. Organization of the Rotation: Each fellow will get approximately the equivalent of six 4-week blocks (about 6 months) during their three years of fellowship to participate in supervised research and scholarly activities. Depending on the interests of the fellow, some will need less time than this and some will need more time. The organization of this experience, either in blocks or concurrent with clinical rotations, will be individualized, depending on the type of research and scholarly activities that the fellow wishes to pursue. Additional elective research

rotations can be added for those trainees who intend to develop academic careers with a research emphasis.

The research experience of the gastroenterology fellow will be closely monitored by the GI Research Mentoring Committee that consists of basic science faculty and clinical faculty. The mentoring committee composition includes at least one external faculty member (outside the division). The committee will meet with the fellow quarterly to provide advice and project monitoring.

After choosing a research advisor and project, fellows will be required to provide a one or two page description of the project for approval by the Mentoring Committee. The required information should briefly and concisely include the following: title, hypothesis, background and significance, study design, methods, data analysis, and perhaps some key references. Fellows will be involved in obtaining study approval from the Institutional Review Board for human studies or animal care and use committees for animal studies, and to undergo all required training for their specific projects prior to initiating the study. Fellows may also be asked to present their protocol at one of the monthly GI Division's Research Conferences for feedback.

Research progress for the project will be monitored quarterly by the GI Research Mentoring Committee and progress/concerns will be discussed with the mentors and Fellowship Program Director. In addition to the presentation at the planning stage, fellows will be encouraged to present at the interim and completion stages.

Fellows will be required to write up and publish their research as abstracts in peer-reviewed journals, and to present them at a meeting, generally a national GI specialty meeting. Fellows are also expected to write up their projects in manuscript form, and to submit them for publication in a peer-review journal.

The research experience is supplemented by a monthly journal club and the monthly GI Research Conference, which gives the trainee experience with critical analysis of scientific papers.

IV. Teaching Methods and Educational Resources: The principal teaching method is mentored planning and execution of a clinical or basic research project, from identification of a research question all the way to the preparation of a final abstract and manuscript.

The supervisory faculty member assists in the development of the research question, the planning of the project, collaboration with other disciplines, data collection, and the writing up and presentation of the project. Collaboration with other disciplines, as needed, brings other experts into the teaching mix.

A divisional mentoring committee (the GI Research Mentoring Committee) provides an additional teaching/educational resource to the fellows. The committee ensures structured advice on the choice of projects, assures suitability of the research project, and monitors progress of the project. The mentoring committee will provide scientific input as needed and help assure adequate time for fellows to conduct their research projects.

Prior to the DDW, ACG and AASLD abstract deadlines, the mentoring committee will ask to review those abstracts being submitted by fellows. It is the expectation that the abstracts will be in a near final form, and that all of the co-authors will have reviewed the abstracts and approved of them prior to the mentoring committee receiving them.

Reading lists and educational resources will largely be the primary medical literature relevant to the study question. Identifying the pertinent literature will be facilitated by the trainee's research mentor and by searching the published literature in the field through library and internet work.

The trainee will get experience in research presentations by presenting their projects at the GI Research Conference. Generally they will present their projects early on, as the project is being developed, and then after the project's completion. Such presentations give an opportunity for constructive criticism and improvement. After the project has been completed, the trainee will also be expected to write it up in abstract and manuscript form. The mentoring faculty member and the divisional mentoring committee will assist the trainee in this regard.

Proficiency in the critical analysis of the scientific literature and in research is further enhanced by the trainee's attendance and participation in GI Journal Club and the GI Research Conference.

V. Lines of Supervision: Each research project the trainee participates in will be supervised by a faculty mentor, and approved and monitored by the divisional GI Research Mentoring Committee. The mentoring committee will coordinate closely with the Fellowship Program Director for evaluation, feedback and supervision.

VI. Methods of Evaluation: Ongoing feedback is given to the research trainee by the supervisory faculty member throughout the research rotation. Periodically, the supervisory faculty member may prepare a written evaluation, which will be discussed with the research trainee. The GI Research Mentoring Committee will provide a formal written evaluation every quarter.

The trainee will generally present his/her research projects in the planning stage, in progress, and after completion at the GI Research Conference. This will permit the research mentor, Program Director and other faculty the opportunity to assess the progress the trainee is making.

It is expected that the trainee will ultimately demonstrate productivity in their research by publishing an abstract in a peer-reviewed journal and submitting it for presentation at a national specialty meeting. The trainee will also be expected to write up their project in manuscript form, and to submit it to a peer-reviewed journal. These expectations must be met before the fellow graduates.

The Program Director will also meet with the trainee every six months to review his/her academic progress.