

University of California
San Francisco

Division of Gastroenterology

Research & Clinical Focus Elective Rotations



UCSF TEACHING HOSPITALS

**Moffitt-Long Hospital ∞ Mount Zion Hospital ∞ San Francisco General
Hospital ∞ Veterans Administration Medical Center**

<http://gidiv.ucsf.edu/>

July 1, 2008

UCSF GI Division – Elective Rotations

Revised 6/27/01

Guidelines on the Choice and Implementation of Elective Rotations

- **The choice of electives must support the primary goals of the second and third years of training, which center on acquiring specific research expertise and solidifying the related clinical skills needed for an academic career.**
- Discussion of the program for this period of training, including elective choices, should be initiated in the spring of the first year with one's primary mentor.
- Fellows may select Research ("pure research") – in which there is no clinical time other than continuity clinic and call, or Clinical Focus ("research/clinical") – in which research time is combined with research-related clinical activity to be set by mentor. The time commitments for each rotation are described in the Electives brochure. Rotation on the Liver Transplant Unit occupies usually two months of the second year, during which a research project in liver disease is pursued.
- Course work in clinical research methods is required in the second year and encouraged in the third year, for fellows with a clinical research focus. Fellows will be excused from clinical obligations for classroom sessions and tutorials.
- The final program must be approved by the mentor and the Division chief prior to the start of the second year.

UCSF GI Division – Research Elective Rotations

Table of Contents

Preceptor(s)	Title of elective	Page
Nathan M. Bass, M.D., Ph.D.	Pathophysiology of Liver Disease/Transplant Hepatology	2
D. Montgomery Bissell, M.D.	The injury response of the liver	2
Laura Bull, Ph.D.	Genetics of Hereditary Liver disease	3
Laura Bull, Ph.D.	Correlations between phenotype and genotype in hereditary cholestasis	3
Timothy Davern, M.D.	Hepatic gene therapy	4
John Inadomi, M.D.	Outcomes and Health Services Research	4
Mandana Khalili	Insulin resistance and pathophysiology of abnormal glucose metabolism in patients with viral hepatitis and liver disease	4
Young S. Kim, M.D.	Molecular prognostic markers in colorectal cancer	5
Young S. Kim, M.D.	Molecular biology of intestinal mucins in mucinous and non-mucinous colorectal cancer	5
W. Michael Korn, M.D.	Rational Design of Targeted Combination Therapies for GI Cancer	6
Uri Ladabaum, M.D., M.S.	Clinical research in functional bowel disease, motility, GI physiology, and cost-effectiveness analysis	6
Jacquelyn Maher, M.D.	Basic research in hepatotoxicity and steatohepatitis	7
Kenneth McQuaid, M.D.	Luminal GI research at VAMC	7
Alex Monto, M.D.	Epidemiology and natural history of chronic liver disease	7
Marion Peters, M.D.	HBV infection: role of occult infection post OLT	8
	Cytokine gene expression and DNA polymorphisms in chronic viral hepatitis: the associations with alcohol and HIV.	
Jonathan Terdiman, M.D.	Colorectal cancer genetics	8
Norah Terrault, M.D., M.P.H.	Antiviral Therapy: Predictors of Response and Outcome in Special Populations	9
Norah Terrault, M.D., M.P.H.	Epidemiology and determinants of natural history of chronic viral hepatitis	9
Norah Terrault, M.D., M.P.H.	Natural History and the Impact of Specific Therapies in Preventing Viral Hepatitis in Liver Transplant Patients	9
Hal Yee, Jr., M.D., Ph.D.	Molecular and cellular basis of hepatic or intestinal fibrosis	10
Hal Yee, Jr., M.D., Ph.D.	Access to subspecialty care & its impact on healthcare outcomes	10

Title of Elective: Pathophysiology of Liver Disease/Transplant Hepatology
Preceptor: Nathan M. Bass, M.D., Ph.D.
Tel: 415-476-0719; email: nathan.bass@ucsf.edu
Description: Clinical and translational studies in hepatic encephalopathy, portal hypertension, pulmonary disorders of chronic liver disease, fatty liver disease, hepatorenal syndrome, coagulopathy of liver disease, cholestatic liver diseases and liver transplantation.
Key words: Portal hypertension, TIPS, encephalopathy, steatohepatitis, ascites, hyponatremia, hepatorenal, cholestasis, liver transplant
Techniques available: Prospective, randomized clinical therapeutic trials of new therapies, Retrospective database review; prospective determination of risk factors for disease progression, prospective pre-and post-interventional determination of hepatic and renal hemodynamics and function; gene mutation frequency analysis; liver transplantation natural history and outcomes.
Procedure training: N/A
Collaborators: Raphael Merriman, M.D., Francis Yao, M.D., Timothy Davern, M.D., (Gastroenterology); John Kane, M.D., (CVRI, UCSF); John Roberts, M.D., Ryo Hirose, M.D., (Surgery, UCSF); Roy Gordon, M.D., Jean La Berge, M.D., Robert Kerlan, M.D., (Radiology, UCSF); Eric Gershwin, M.D., (Immunology, UCD); Teresa DeMarco, M.D. (Cardiology, UCSF).
Pre-requisites: N/A
Minimum commitment: 12 months

Title of Elective: The injury response of the liver
Preceptor: D. Montgomery Bissell, M.D.
Tel: 415-476-2777; e-mail: montgomery.bissell@ucsf.edu
Description: Laboratory training in basic cell and molecular biology of the liver with a focus on the injury response, fibrogenesis, and pathogenesis of hepatocellular carcinoma.
Key words: Stellate cells, fibrosis, endothelial cells, cell-matrix interaction, cytokines, integrins, collagens, fibronectin, hepatitis C, hepatocellular carcinoma.
Techniques available: Isolation and primary culture of hepatic cells; recombinant DNA technology (PCR, cloning, protein expression, mRNA quantitation); immunohistochemistry.
Collaborators: Drs. Korn (GI, Mt Zion); Ostroff (GI, Moffitt); Biogen Inc (Cambridge, MA).
Minimum commitment: 18 months

Title of Elective: Genetics of Hereditary Liver disease (basic research orientation)
Preceptor: Laura Bull, Ph.D.
Tel: 415-206-4807; email: lbull@medsfgh.ucsf.edu
Description: Laboratory training and research in approaches and methods to genetic study of hereditary liver disease. The particular form of disease to be studied depends on the interests of the fellow, and the status of the projects in the laboratory at the time of the rotation. Please see the key word list for names of disorders currently under study in the laboratory.

Key words: genetics, hereditary, cholestasis, liver disease, progressive familial intrahepatic cholestasis (PFIC), benign recurrent intrahepatic cholestasis (BRIC), lymphedema-cholestasis syndrome (LCS1), familial hypercholelanemia (FHC), intrahepatic cholestasis of pregnancy (ICP).

Techniques available: polymerase chain reaction (PCR), microsatellite and single nucleotide polymorphism (SNP) genotyping, mutation screening using DNA sequencing and denaturing high performance liquid chromatography (DHPLC), DNA sequence analysis, database mining, interpretation of genetic data, planning of genetic studies, gene mapping and discovery, candidate gene evaluation, generation and evaluation of mouse models of hereditary liver disease.

Procedure training: N/A

Collaborators: Nathan Bass, M.D. (UCSF); others locally and elsewhere, depending on specific project

Minimum commitment: 6 months, although longer is preferable.

Title of Elective: Correlations between phenotype and genotype in hereditary cholestasis (translational research orientation)

Preceptor: Laura Bull, Ph.D.
Tel: 415-206-4807; email: lbull@medsfgh.ucsf.edu

Description: Collection, assembly, and analysis of clinical, histopathological, biochemical, and treatment outcome data and correlation with results of genetic studies of these patients, who have progressive familial intrahepatic cholestasis or benign recurrent intrahepatic cholestasis. This is an ongoing study, involving international collaboration with experts in the clinical and genetic aspects of these disorders.

Key words: phenotype-genotype correlation, progressive familial intrahepatic cholestasis (PFIC), benign recurrent intrahepatic cholestasis (BRIC), liver transplant, biliary diversion

Techniques available: data collection, database design, data analysis

Procedure training: N/A

Collaborators: Nathan Bass, M.D. (UCSF); Richard Thompson, M.D. (King's College Hospital, London, U.K.); Alex Knisely, M.D. (King's College Hospital, London, U.K.); Roderick Houwen, M.D., Ph.D. (University Medical Center, Utrecht, The Netherlands); Joanna Pawlowska, M.D., Ph.D. and Irena Jankowska, M.D., Ph.D. (Children's Memorial Health Institute, Warsaw, Poland); Billy Bourke, M.D. (Our Lady's Hospital for Sick Children, Dublin, Ireland).

Minimum commitment: 6 months, although longer is preferable. As this project does not involve laboratory benchwork, scheduling is flexible, and the project may be particularly well-suited to being performed on a part-time basis, interspersed with clinical duties.

Title of Elective: Hepatic gene therapy

Preceptor: Timothy Davern, M.D.
Tel: 415-502-0610; timothy.davern@ucsf.edu

Description: Training in the theoretical background and practical aspects of hepatic gene delivery and expression.

Key words: Gene transfer; gene therapy; retroviral, transposon, adenoviral and adeno-associated virus vectors.

Techniques available: Basic techniques in molecular and cell biology including: DNA, RNA purification and characterization; cloning; PCR; recombinant protein expression, purification and characterization; viral vector design, construction, production, purification, and characterization; immunohistochemistry; cell culture; animal studies.

Collaborators: Dr. Y.W. Kan Lab (UCSF HHMI), Dr. D.M. Bissell Lab (UCSF Liver Center).

Pre-requisites: Undergraduate-level understanding of molecular and cell biology; attendance of graduate level courses in Genetics, Macromolecules, Bioregulatory Mechanisms, and Cell Biology will be strongly encouraged during the rotation. Prior bench research experience is desirable but not mandatory.

Minimum commitment: 18 months

Title of Elective: Outcomes and Health Services Research

Preceptors: John Inadomi, M.D.
Tel: 415- 206-4749; e-mail: jinadomi@medsfgh.ucsf.edu

Description: Development and implementation of a patient-based research study using epidemiological, quantitative, and quality of life techniques.

Keywords: Clinical research, Translational (T2) research, Outcomes research; Health services research, Quality of life

Techniques available: Decision and cost-effectiveness analysis; descriptive and analytical techniques for analyzing databases (logistic/linear regression, survival analysis, proportional hazards modeling); time trade-off and standard gamble methods of assessing utilities; quality of life assessment; prospective clinical trials, translational (Efficacy to Practice) research.

Procedure Training: None

Collaborators: Uri Ladabaum, Jonathan Terdiman, Ken McQuaid, Janak Shaw, John Cello, Hal Yee.

Pre-requisites: None

Minimum Commitment: 2 years and commitment to obtain Masters of Science degree in advanced research methods.

Title of Elective: Insulin resistance and pathophysiology of abnormal glucose metabolism in patients with viral hepatitis and liver disease

Preceptor: Mandana Khalili, MD MAS
Tel: 415-2064766; email: Mandana.khalili@ucsf.edu

Description: 1) Participation in translational/clinical research and analysis of physiologic studies/ techniques of glucose metabolism in patients with viral hepatitis and liver disease, interpretation of data with regards, 2) interpretation of studies of insulin resistance and insulin secretion in patients with chronic hepatitis C

Key words: Translational research, clinical research, hepatitis C, insulin resistance, diabetes, physiology

Techniques available: 1) Insulin suppression test, 2) glucose infusion test, 3) oral glucose tolerance test

Collaborators: Gerald Reaven, M.D., Jackie Maher, M.D.

Prerequisites: Summer Training in Clinical Research Course is encouraged
Minimum commitment: 6-12 months depending on the project

Title of Elective: Molecular prognostic markers in colorectal cancer
Preceptor: Young S. Kim, M.D.
 Tel: 415-750-2095; e-mail: youngk@itsa.ucsf.edu
Description: Laboratory training in basic cell and molecular biology of colorectal cancer with a focus on identification of molecular and biological markers that can influence clinical care and outcome.
Key words: Dukes' stage, adenomas, metastasis, DNA methylation, LOH, cell cycle associated cyclin dependent kinase inhibitors, tumor suppressor genes (APC, P16, P21, P53, TGFbII-R), APC, b-catenin, E-cadherin, microsatellite instability, angiogenesis, apoptosis.
Techniques available: Microdissection and processing of frozen and archival cancer tissues, cancer cell culture, immunohistochemistry, *in situ* hybridization using nucleic acid probes, recombinant DNA technology (PCR, cloning Northern and Southern blotting, LOH analysis and cell transfection). Statistical methods of analysis of data.
Collaborators: Drs. Gum, Deng, Crawley, and Karkar.
Minimum commitment: 18 months

Title of Elective: Molecular biology of intestinal mucins in mucinous and non-mucinous colorectal cancer
Preceptor: Young S. Kim, M.D.
 Tel: 415-750-2095; e-mail: youngk@itsa.ucsf.edu
Description: Laboratory training in basic cell and molecular biology of mucin glycoproteins with a focus on regulation of mucin gene expression in mucinous and non-mucinous colorectal cancer. Specifically, this work involves: 1) identification and characterization of cell-lineage associated transcription factors important in MUC2 gene regulation, 2) elucidation of signal transduction pathways involved in the regulation of mucin gene expression (MUC2 and MUC5 AC) by cytokines and growth factors in cancer cells, 3) examination of the mechanism of promoter methylation in regulating mucin gene expression in mucinous and non-mucinous colorectal cancer.
Key words: Mucinous cancer, mucin, transient transfection of gene promoter/reporter constructs, transcription factors, DNA methylation, signal transduction pathways, protein kinases, cytokines, growth factors, cell lineage associated transcription factors.
Techniques available: Microdissection and processing of frozen and archival normal and cancer tissues, cancer cell culture, immunohistochemistry, *in situ* hybridization with nucleic acid probes, recombinant DNA technology (PCR, Northern and Southern blotting, RPA, cloning and sequencing), cell transfection, transgenic mice, DNA methylation analysis, Western blot, immunoelection and confocal microscopy, *in vitro* and *in vivo* invasion/metastasis assays.
Collaborators: Drs. Gum, Deng, Crawley, Karkar.
Minimum commitment: 18 months

Title of Elective: Rational Design of Targeted Combination Therapies for GI Cancer
Preceptor: W. Michael Korn, M.D.
Tel: 415-502 2844, e-mail: mkorn@cc.ucsf.edu
Description: Laboratory training in basic cell and molecular biology as well as virology. Participate in translational projects exploring the systems biology of GI and breast cancer. Utilize cutting edge technologies and collaborate with leading scientists to design novel cancer therapies based on an in-depth understanding of cancer signal transduction networks.
Key words: GI-cancer, EGF-receptor signaling, small molecule inhibitors, adenovirus replication, coxsackie-adenovirus receptor CAR
Techniques available: Cancer Cell culturing, recombinant DNA technology, PCR, FISH, RNA-expression analysis including Northern-blotting, RT-PCR, TaqMan-PCR, luciferase promoter reporter assays, Affymetrix expression arrays, Western-blotting including co-immunoprecipitation, FACS, immune-fluorescence, confocal microscopy, immunohistochemistry, reverse-phase protein arrays, Cellomics high content image analysis, siRNA and shRNA mediated gene knock-down, controlled virus infection, CPE- and plaque assays.
Collaborators: Drs. Joe Gray (LBNL, Berkeley and UCSF, Allan Balmain (UCSF), Frank McCormick (CRI, UCSF)
Pre-requisites: Basic knowledge in molecular biology, laboratory experience helpful
Minimum commitment: 18 months

Title of Elective: Clinical research in functional bowel disease, motility, GI physiology, and cost-effectiveness analysis
Preceptor: Uri Ladabaum, M.D., M.S.
Tel: 415-514-0591; email: uri.ladabaum@ucsf.edu
Description: 1) Central nervous system representation of visceral pain in health and in non-ulcer dyspepsia. 2) Effect of nutrients and serotonin 5-HT₃ receptor antagonists on symptoms induced by gastric distension in non-ulcer dyspepsia. 3) Effects of antidepressants on visceral sensitivity, including IBS/citalopram study. 4) Decision analysis/cost-effectiveness analysis (colon cancer screening, chemoprevention, screening in hepatocellular carcinoma). 5) Yield of colonoscopy in the evaluation of constipation. 6) Dyspepsia-related projects or other appropriate projects to be designed with interested fellow.
Key words: Motility, physiology, visceral pain, brain-gut, clinical research, decision analysis
Techniques available: 1) Barostat-controlled distension of viscera and duodenal perfusion of nutrients. 2) Central nervous system functional imaging (functional magnetic resonance imaging). 3) Clinical trials, double-blind administration of pharmaceuticals, data analysis (SAS software). 4) Decision analysis/cost-effectiveness analysis.
Collaborators: Ken McQuaid, M.D.
Prerequisites: Oracle course encouraged
Minimum commitment: 3-18 months, depending on project

Title of Elective: Basic research in hepatotoxicity and steatohepatitis
Preceptor: Jacquelyn Maher, M.D.
Tel: 415-206-4805; e-mail: jmaher@medsfgh.ucsf.edu
Description: This is a full-time research elective in which fellows will develop investigative skills in basic hepatology. Active projects address the pathogenesis of liver injury due to toxins or fat, and investigate the therapeutic efficacy of various pharmacologic agents. Methods include manipulation of whole animals (primarily mice), primary liver cell culture, and a variety of biochemical and molecular techniques. Mechanisms of cell death and nutritional aspects of liver injury are emphasized. The fellow will design a project and participate in mandatory weekly journal clubs and research seminars.
Key words: Cytoprotection, apoptosis, mitochondria, ER stress, fatty acid, steatosis, steatohepatitis, hepatocyte, sinusoidal endothelial cell.
Techniques available: Animal models, cell culture, PCR, histology, immunohistochemistry, microarray, Western blot, fatty acid analysis.
Procedure training: none
Collaborators: H. Yee (SFGH), S.Kakar (VAMC), C.Niemann (UCSF), J.Baron (UCSF).
Pre-requisites: none
Minimum commitment: 18 months

Title of Electives: Luminal GI research at VAMC
Therapeutic Endoscopy Research
Preceptors: Kenneth McQuaid, M.D.
Tel: 415-221-4810, 4407; e-mail: Kenneth.mcquaid@med.va.gov
Janak Shah, M.D.
Tel: 415-221-4810, 4407; e-mail: Janak.Shah@med.va.gov
Description: Clinical research training at VAMC on project(s) of mutual interest to GI fellow and preceptor. Collaboration with VA HSR&D office for appropriate research protocols will permit access to local and national VA database. VA site is optimal to perform studies pertaining to enhancement of endoscopy techniques and outcomes.
Keywords: Colorectal cancer screening, Barrett's esophagus, gastrointestinal bleeding, gastrointestinal oncology, systematic reviews
Procedure Training: Therapeutic colonoscopy and endoscopy, EUS, esophageal and anorectal manometry, virtual colonoscopy
Collaborators: Drs. Ryan, Inadomi and Yee; VA HSR&D (Health Services Research and Development program).
Pre-requisites: Completion of first year.
Minimum Commitment: 6 months

Title of Elective: Epidemiology and natural history of chronic liver disease
Preceptor: Alexander Monto M.D.
Tel: 415-221-4810 x2958; email: alexander.monto@med.va.gov

Description: Training in epidemiological methods to address clinical questions focused on liver disease due to hepatitis B and C, as well as alcohol. Additional clinical training on the management of these conditions and their complications will also be provided.

Key words: Hepatitis C, Hepatitis B, HIV, alcoholic liver disease, cirrhosis, hepatocellular carcinoma, portal hypertension.

Techniques available: Use of group databases and cohort studies to address clinical research questions. Prospective, randomized clinical therapeutic trials of new therapies.

Procedure training: N/A

Collaborators: Jay Ryan, M.D., Kenneth McQuaid, M.D., Sue Currie M.A., Helen Yee, Pharm.D., (Gastroenterology, SFVAMC); Phyllis Tien, M.D. (Infectious Diseases, SFVAMC); Carl Grunfeld, M.D. Ph.D. (Endocrinology, SFVAMC); Teresa Wright M.D., (SFVAMC/Roche Molecular Systems).

Pre-requisites: N/A

Minimum commitment: 6 months

Title of Elective: HBV infection: role of occult infection post OLT
Cytokine gene expression and DNA polymorphisms in chronic viral hepatitis: the associations with alcohol and HIV.

Preceptor: Marion Peters, M.D.
Tel: 415-476-2777; email: marion.peters@ucsf.edu

Description: Training in molecular molecular techniques, use of databases and cohort clinical studies for human studies.

Key words: hepatitis, viral, translational

Techniques available: Molecular biology, statistical analysis

Minimum commitment: 12 months

Title of Elective: Colorectal cancer genetics

Preceptor: Jonathan Terdiman, M.D.
Tel: 415-502-4444; e-mail: jonathan.terdiman@ucsf.edu

Description: Clinical and translational research on the genetics of colorectal cancer. Collaborations with basic science laboratories and cancer epidemiologists will be encouraged.

Keywords: colorectal cancer, cancer genetics, molecular epidemiology, molecular prognostication, colitis related cancer, hereditary colorectal cancer, hereditary nonpolyposis colorectal cancer, familial adenomatous polyposis, genetic counseling, genetic testing.

Procedure Training: cancer risk assessment, genetic counseling, genomic analysis of tumors, molecular epidemiology.

Collaborators: Drs. Waldman, Kim, Levin, Sleisenger, McQuaid.

Pre-requisites: none.

Minimum Commitment: 6 months

Title of Elective: Antiviral Therapy: Predictors of Response and Outcome in Special Populations
Preceptor: Norah Terrault, M.D., M.P.H.
Tel: 415-476-2227; e-mail: norah.terrault@ucsf.edu
Description: Participation in clinical trials involving new therapies for the treatment of hepatitis B and C. Use of prospective and retrospective datasets to address the outcomes of therapy and factors influencing response.
Key words: HBV, HCV, cirrhosis, dialysis, HIV infection
Techniques available: Clinical trial methodologies, multivariate analyses
Procedure training: Liver biopsy.
Collaborators: UCSF Hepatologists (Drs. Bass, Bissell, Davern, Merriman, Peters, Yao)
UCSF Nephrologists (Drs. Adey, Tomlanovich)
Pre-requisites: Completion of ORACLE course recommended
Minimum commitment: 6 months

Title of Elective: Epidemiology and determinants of natural history of chronic viral hepatitis
Preceptor: Norah Terrault, M.D., M.P.H.
Tel: 415-476-2227; e-mail: norah.terrault@ucsf.edu
Description: Training in epidemiological methods to address clinical questions focused on liver disease due to hepatitis B and C
Key words: HBV, HCV, alcohol, fatty liver, hepatocellular carcinoma, HIV.
Techniques available: Cohort and case-control studies.
Procedure training: Liver biopsy.
Collaborators: Dr. TR Levin and Michele Manos (DOR, Kaiser); Dr. Marion Peters (UCSF);
Dr. Beth Bell (CDC)
Pre-requisites: Completion of ORACLE course.
Minimum commitment: 12 months

Title of Elective: Natural History and the Impact of Specific Therapies in Preventing Viral Hepatitis in Liver Transplant Patients
Preceptor: Norah Terrault, M.D., M.P.H.
Tel: 415-476-2227; e-mail: norah.terrault@ucsf.edu
Description: Utilizing established databases to address natural history questions.
Participation in clinical trials involving new therapies for the treatment of hepatitis B and C.
Key words: HBV, HCV, liver transplantation
Techniques available: Clinical trial methodologies, multivariate analyses
Procedure training: Liver biopsy.
Collaborators: UCSF Hepatologists (Drs. Bass, Bissell, Davern, Merriman, Peters, Yao)
UCSF Transplant Surgeons (Drs. Roberts, Ascher, Feng, Stock, Hirose, Freise, Kang)
Pre-requisites: Completion of ORACLE course recommended

Minimum commitment: 6 months

Title of Elective: Molecular and cellular basis of hepatic or intestinal fibrosis

Preceptor: Hal F. Yee, Jr., M.D., Ph.D.
Tel: 415-206-4808; e-mail: hyee@medsfgh.ucsf.edu

Description: Laboratory training in the molecular biology, cellular physiology and pathophysiology of fibrosis in the liver or gut.

Key words: Fibrosis, signal transduction, wound response, chemotaxis, contractility, proliferation, stellate cells, myofibroblasts

Techniques available: High resolution transmission and epifluorescence microscopic imaging, standard molecular biological and protein methods, real-time assays for chemotaxis and contractile force generation, cell culture, and animal models of liver and gut injury.

Collaborators: Drs. Maher (GI, SFGH)

Minimum commitment: 18 months

Title of Elective: Access to subspecialty care and its impact on healthcare outcomes

Preceptor: Hal F. Yee, Jr., M.D., Ph.D.
Tel: 415-206-4808; e-mail: hyee@medsfgh.ucsf.edu

Description: Clinical research training focused on the scientific approach to current challenges to provision of GI and hepatologic care and their impact on health outcomes.

Key words: Access to care, resource disparities, health care outcome, health care systems and organizations, primary provider-subspecialist interactions.

Techniques available: Database development and analysis, and decision and cost analysis.

Collaborators: Dr. Inadomi (SFGH)

Minimum commitment: 18 months

UCSF GI Division - Clinical Focus Elective Rotations

Table of Contents

Preceptor(s)	Title of elective	Page
Nathan M. Bass, M.D., Ph.D. Scott Biggins, M.D. D. Montgomery Bissell, M.D. Timothy Davern, M.D. Raphael Merriman, M.D. Marion Peters, M.D. Norah Terrault, M.D., M.P.H. Francis Yao, M.D.	Transplant hepatology	13
John Cello, M.D.	General therapeutic endoscopy -- SFGH	13
Mandana Khalili, M.D.	Hepatocellular screening practices in hepatitis-B Asian Americans	14
Uri Ladabaum, M.D., M.S. James W. Ostroff, M.D.	GI Motility and Therapeutic Endoscopy Elective	14
Uma Mahadevan, M.D. Jonathan Terdiman, M.D.	IBD Clinical Focus Elective	15
Kenneth McQuaid, M.D. Janak Shah, M.D.	Advanced luminal GI training at VAMC Therapeutic Endoscopy Endoscopic Ultrasound and pancreaticobiliary endoscopy	15
James W. Ostroff, M.D.	Senior endoscopy elective	15
James W. Ostroff, M.D.	Continuity Clinic	16
James W. Ostroff, M.D.	Advanced pancreatobiliary endoscopy	16
Marion Peters, M.D.	The role of occult HBV in HIV co-infection and organ transplantation. The role of host response in viral hepatitis: association with HIV, alcohol and steatosis	16
Jonathan Terdiman, M.D.	Inflammatory Bowel Disease	17
Jonathan Terdiman, M.D.	Hereditary Colorectal Cancer and Colorectal Cancer Prevention	17
Jonathan Terdiman, M.D. James Ostroff, M.D. Theodore Schrock, M.D. Madhulika Varma, M.D.	Colorectal Diseases	18
Francis Yao, M.D.	Treatment of Liver Cancer, transplant hepatology	18
Hal Yee, Jr., M.D., Ph.D. Mandana Khalili, M.D.	Viral hepatitis and general hepatology	19

Title of Elective: Transplant hepatology

Preceptors: Nathan M. Bass, M.D., Ph.D.
 Tel: 415-476-0719; e-mail: nathan.bass@ucsf.edu
 Scott Biggins, M.D.
 Tel: 415-502-5259; email: scott.biggins@ucsf.edu
 D. Montgomery Bissell, M.D.
 Tel: 415-476-2777; e-mail: montgomery.bissell@ucsf.edu
 Timothy Davern, M.D.
 Tel: 415-502-0610; e-mail: timothy.davern@ucsf.edu
 Marion Peters, M.D.
 Tel: 415-476-3777; email: marion.peters@ucsf.edu
 Norah Terrault, M.D., M.P.H.
 Tel: 415-476-2227; e-mail: norah.terrault@ucsf.edu
 Francis Yao, M.D.
 Tel: 415-514-0332; email: francis.yao@ucsf.edu

Description: Two months of clinical rotation on the Liver Transplant Unit (LTU) and four months of mentored research and outpatient clinics in the Transplant Program.

Key words: Portal hypertension, hepatocellular carcinoma, viral hepatitis, immunosuppression, hepatic surgery.

Procedure training: Needle biopsy of the liver (2-4 weekly); endoscopy on transplant patients (EGD, sclerotherapy, banding, colonoscopy) and paracentesis.

Collaborators: Drs. Roberts, Ascher, Feng, Freise, Hirose, Kang, Posselt, Stock.

Pre-requisites: Completion of the second-year rotation on the LTU (2 months).

Minimum commitment: 6 months (may be scheduled as 2 + 4 months).

Title of Elective: General therapeutic endoscopy -- SFGH

Preceptor: John Cello, M.D.
 Tel: 415-206-4767; e-mail: jpcsf@aol.com

Description: Four months of therapeutic endoscopy training, combining ERCP, Argon plasma coagulation, Given capsule enteroscopy, laser fulguration, Bravo pH capsule and esophageal motility/manometry. Two months of dedicated time to retrospective or prospective studies and manuscript preparation.

Collaborators: Dr. John Inadomi, Dr. James Allison

Pre-requisites: 1st year fellowship

Title of Elective: Outcomes and Health Services Research

Preceptors: John Inadomi, M.D.
 Tel: 415- 206-4749; e-mail: jinadomi@medsfgh.ucsf.edu

Description: Development and implementation of a patient-based research study using epidemiological, quantitative, and quality of life techniques.

Keywords: Clinical research, Translational (T2) research, Outcomes research; Health services research, Quality of life

Techniques available: Decision and cost-effectiveness analysis; descriptive and analytical techniques for analyzing databases (logistic/linear regression, survival analysis, proportional hazards modeling); time trade-off and standard

gamble methods of assessing utilities; quality of life assessment; prospective clinical trials, translational (Efficacy to Practice) research.

Procedure Training: None

Collaborators: Uri Ladabaum, Jonathan Terdiman, Ken McQuaid, Janak Shaw, John Cello, Hal Yee.

Pre-requisites: None

Minimum Commitment: 2 years and commitment to obtain Masters of Science degree in advanced research methods.

Title of Elective: Hepatocellular screening practices in hepatitis-B Asian Americans

Preceptor: Mandana Khalili, MD MAS
Tel: 415-2064766; email: Mandana.khalili@ucsf.edu

Description: The overall aim of the project is to describe and analyze current HCC screening practices among HBV infected Asian Americans. Asian Americans are the target population because this group has clearly been identified as having the highest rate of HBV infection as well as bearing the greatest burden of HCC disease. Fellow will participate in clinical research, survey studies, and outcome research specifically focused on cancer disparity and community research

Key words: clinical research, survey, outcomes research, cancer disparity,

Title of Elective: GI Motility and Therapeutic Endoscopy Elective

Preceptors: Uri Ladabaum, M.D., M.S.
Tel: 415-514-0591; email: uri.ladabaum@ucsf.edu
James W. Ostroff, M.D.
Tel: 415-353-1464; e-mail: james.ostroff@ucsf.edu

Other Faculty: Marco Patti, MD, Lawrence W. Way, MD

Description: This is a clinical elective that offers training in the performance and interpretation of GI manometry and PH studies in collaboration with the Center for Motility and GI Secretory Studies in the Department of Surgery. It exposes the fellow to the spectrum of GI motility disorders, disorders of reflux and their endoscopic and surgical therapy. The fellow will also be given the opportunity to participate in clinical research trials pertaining to irritable bowel disease. Fellow will be given the opportunity to master the techniques of dilation of post-operative esophageal strictures and perform pneumatic dilation in patients with achalasia. There will be the opportunity to complete two small retrospective research projects.

Site: Moffitt-Long

Duration: 1-2 months

Title of Elective: IBD Clinical Focus Elective

Preceptors: Uma Mahadevan, M.D.
Tel: 415-502-4444; email: uma.mahadevan@ucsf.edu
Jonathan P. Terdiman, M.D.
Tel: 415-885-3601; email: jonathan.terdiman@ucsf.edu
Fernando Velayos MD
Tel: 415-502-4444; email: fernando.velayos@ucsf.edu

Description: This elective will include training in the inpatient and outpatient management of complicated inflammatory bowel disease, a clinical research project and conference presentation. Fellows will spend time at the IBD Center with Uma Mahadevan, Jonathan Terdiman and Fernando Velayos managing patients with ulcerative colitis and Crohns disease. They will also be able to participate in enrolling patients in ongoing clinical trials. It is expected that each fellow will select a clinical research project to complete within their six months for publication and/or national conference presentation. Fellows will also be expected to present cases at the monthly IBD conference to be held at UCSF/Parnassus.

Collaborators: Uma Mahadevan MD (UCSF), Jonathan Terdiman, M.D. (UCSF), Fernando Velayos MD (UCSF)

Minimum commitment: 6 months

Title of Elective: Advanced luminal GI training at VAMC
Therapeutic Endoscopy
Endoscopic Ultrasound and pancreaticobiliary endoscopy

Preceptors: Kenneth McQuaid, M.D.
Tel: 415-221-4810, 3842; e-mail: kenneth.mcquaid@med.va.gov
Janak Shah, M.D.
Tel: 415-221-4810; e-mail: janak.shah@med.va.gov

Description: Three months of clinical rotation on GI unit at VAMC.

Keywords: Colorectal neoplasia, premalignant lesions of GI tract, GI malignancy, inflammatory bowel disease, functional GI disease.

Procedure Training: Colonoscopy, upper endoscopy, variceal banding, laser therapy, percutaneous gastrostomy, ERCP, esophageal and anorectal manometry, endoscopic ultrasound, radiological imaging (body CT and abdominal US), interpretation of GI histology.

Collaborators: Drs. Ryan and Yee

Pre-requisites: Completion of first year

Minimum Commitment: 3 months

Title of Elective: Senior endoscopy elective

Preceptor: James W. Ostroff, M.D.
Tel: 415-353-1464; e-mail: james.ostroff@ucsf.edu

Other Faculty: Marco Patti, M.D., Larry Way, M.D., Kim Kirkwood, M.D.

Description: This elective is for individuals who wish to enhance their skills in standard endoscopy as well as master techniques in small bowel enteroscopy and enteral stent placement. It offers adequate clinical material to complete a prospective project as well as one or more retrospective projects.

This elective is geared for the second, third or fourth year fellow that is interested in a bench research tract or outcomes research tract and wishes maintain and enhance their endoscopy skills

Keywords: Polypectomy (stomach and colon), stricture dilation, sclerotherapy and banding of varices, management of angiodysplasia, small bowel enteroscopy, stent placement, pneumatic dilation of achalasia.

Sites: Moffitt-Long and Mt. Zion Campuses.
Duration: One half day per week (times and duration are flexible).

Title of Elective: Continuity Clinic
Preceptor: James W. Ostroff, M.D.
 Tel: 415-353-1464; e-mail: james.ostroff@ucsf.edu
Other Faculty: Karen Bagatelos, RN, NP
Description: This elective gives a fellow an opportunity to participate in an active Tertiary Referral GI practice. The Practice meets on Tues or Thurs afternoon at 350 Parnassus, Suite 410 (Moffitt-Long) and on Thursday at 2330 Post Street, Suite 6 (Mt Zion). All the clinics can be “bundled” with a second ½ day per week where the fellow schedules and performs the endoscopic procedures of the patients that they have seen in the practice. This gives true continuity and permits the fellow to follow patients from the initial consultation to management of the GI problem.
Keywords: Polypectomy (stomach and colon), stricture dilation, sclerotherapy and banding of varices, management of angiodysplasia, small bowel enteroscopy, stent placement, pneumatic dilation of achalasia.
Sites: Moffitt-Long and Mt. Zion Campuses.
Duration: One half day per week with the opportunity to do a second ½ day per week of endoscopic procedures

Title of Elective: Advanced pancreatobiliary endoscopy
Preceptor: James W. Ostroff, M.D.
 Tel: 415-353-1464; e-mail: james.ostroff@ucsf.edu
Other Faculty: Roy Gordon, M.D., Robert Kerlin, M.D., Larry Way, M.D., Nancy Ascher, M.D., Ph.D, Robert Warren, M.D., Jeanne Laberge, M.D., Mark Wilson, M.D.
Description: This elective is for fellows with a primary research focus in the area of therapeutic biliary and pancreatic endoscopy. In the course of developing and pursuing an original project, the fellow will acquire skills in stone extraction, lithotripsy, cholangioscopy, placement of naso biliary catheters, stricture dilation, stent placement, biliary and pancreatic manometry and transpapillary drainage of pancreatic pseudocysts. Some portion of the elective will be devoted partially to research.
Sites: Moffitt-Long
Duration: Duration and intensity can be individualized
Enrollment: Those interested in this elective should discuss their plans initially with Dr. Ostroff. The ASGE guidelines require at least 200 ERCP cases during fellowship to gain recognition as a biliary endoscopist. These cases can be spread over several years while a fellow is pursuing other activities without the need to enroll in a fourth year of training. Alternatively this can serve as an introduction to a fourth year program (here or elsewhere) if ones interest is kindled in this field.

Title of Elective: The role of occult HBV in HIV co-infection and organ transplantation.
 The role of host response in viral hepatitis: association with HIV, alcohol

	and steatosis
<u>Preceptor:</u>	Marion Peters, M.D. Tel: 415-476-2777; email: marion.peters@ucsf.edu
<u>Description:</u>	Evaluation of virologic and DNA polymorphism data in severity of liver disease and outcome of treatment
<u>Key words:</u>	viral hepatitis, host response
<u>Techniques available:</u>	Protocol writing, CHR training, data gathering, statistical analysis and evaluation.
<u>Minimum commitment:</u>	6 months
<u>Title of Elective:</u>	Inflammatory Bowel Disease
<u>Preceptor:</u>	Jonathan P. Terdiman, M.D. Tel: 415-502-4444; e-mail: jonathan.terdiman@ucsf.edu
<u>Description:</u>	Fellows taking this 4-6 month elective receive an intensive exposure to the clinical management of inflammatory bowel disease while carrying out a related clinical and/or translational research project. They spend 2-3 half days per week in an office setting devoted primarily to IBD patients. They make rounds on all hospitalized IBD patients and perform endoscopic procedures those whom they see in the office during the rotation. Fellows also may elect to spend time in the office and in the operating room with the UCSF colorectal surgeons to familiarize themselves with the surgical management of IBD. A portion of the elective (1-2 months) may be spent working at an IBD Center away from UCSF if this is deemed essential to the training goals. Fellows are expected to initiate an IBD-related clinical research project and may participate in pharmaceutical company-sponsored clinical trials as well. Possibilities include translational research on the genomics of colitis-related cancer; laboratory-based research involving murine models of IBD may also be available in conjunction with this elective. Site: UCSF-Mt. Zion Med Cntr
<u>Keywords:</u>	Crohn's Disease, ulcerative colitis, intestinal inflammation, cytokines, colorectal surgery
<u>Commitment:</u>	4-6 months
<hr/>	
<u>Title of Elective:</u>	Hereditary Colorectal Cancer and Colorectal Cancer Prevention
<u>Preceptor:</u>	Jonathan P. Terdiman, M.D. Tel: 415-502-4444; e-mail: jonathan.terdiman@ucsf.edu
<u>Description:</u>	Trainees are given an intensive exposure to the management of individuals at high-risk for colorectal cancer while participating in the weekly activities of the Colorectal Cancer Prevention Program. The practice includes a large number of individuals with familial adenomatous polyposis, hereditary non-polyposis colorectal cancer and other hereditary cancer susceptibility disorders. Fellows learn the basics of genetic counseling and testing for hereditary colorectal cancer, and they become well versed in the appropriate medical management of high-risk families. The majority of the time is spent in clinical and/or translational research in the area of family/hereditary colorectal cancer. Unique research opportunities are available using resources such as the UCSF Hereditary Colorectal Cancer Registry. Over 300 high-risk families are enrolled in this registry. Research opportunities also exist via established links with the American and International Collaborative Groups for Hereditary Colorectal Cancer and the NCI sponsored Cooperative Familial Registries

for Colon Cancer Studies. Translational research projects may be undertaken in collaboration with the GI Research Laboratory at the SFVAMC and other UCSF Cancer Center laboratories. Site: UCSF-Mt. Zion Medical Center

Keywords: colon cancer, genetics, DNA repair, risk assessment, genetic counseling
Commitment: 4-6 months

Title of Elective: Colorectal Diseases
Preceptors: Jonathan P. Terdiman, M.D.
Tel: 415-502-4444; e-mail: jonathan.terdiman@ucsf.edu
James Ostroff, M.D.
Tel: 415-476-4164; email: james.ostroff@ucsf.edu
Theodore Schrock, M.D.
Tel: 415-476-4633; email: schrockt@medcenter.ucsf.edu
Madhulika Varma, M.D.
Tel: 415-502-3913

Description: This 3-6 month elective will provide an intensive exposure to the clinical management of colorectal diseases. Topics to be covered will include inflammatory bowel disease, colorectal cancer, with a special emphasis on cancer prevention in high-risk populations, treatment of benign anorectal disease, rectal USG and anorectal physiology. Skills to be acquired will include management of complicated IBD patients, genetic counseling for hereditary colon cancer, advanced colonoscopic techniques (high-risk polypectomy, stricture dilation, endoluminal stent placement), treatment of anorectal disease (for example, hemorrhoid banding), performance of rectal ultrasound and anorectal physiology. Fellows will spend 1-2 half days per week in an office setting devoted primarily to IBD patients, and they will be expected to make rounds on all hospitalized IBD patients and to perform endoscopic procedures on patients they see in the office during the rotation. Fellows also will spend one half day per week in a hereditary colon cancer clinic. During this time fellows will see a large volume of individuals with familial adenomatous polyposis, hereditary non-polyposis colorectal cancer and other hereditary cancer susceptibility disorders. Fellows will learn the basics of genetic counseling and testing for hereditary colorectal cancer and they will become well versed in the appropriate medical management of high-risk families. Fellows will spend one half day per week in the office of one of the UCSF colorectal surgeons and another half day per week performing minor procedures and working in the anorectal physiology laboratory with the surgeons. Finally, fellows will spend 2 half days per week performing colonoscopy at the Moffitt-Long and/or MZ endoscopy units. Fellows will perform routine procedures, but the emphasis of their training will be on advanced procedures (removal of large polyps, stricture dilation, stent placement, rectal USG). The fellow will be expected to participate in all such procedures. Fellows will be expected to initiate a clinical research project related to colorectal disease during the rotation.

Site: Moffitt-Long and Mount Zion
Commitment: 3-6 months

Title of Elective: Treatment of Liver Cancer, transplant hepatology
Preceptor: Francis Yao, M.D.
Tel: 415-514-0332; email: francis.yao@ucsf.edu

Description: A prospective study on down-staging of liver cancer prior to liver transplantation, the use of extended criteria, the impact of loco-regional therapy on outcome after liver transplantation for liver cancer. Outcomes related to other diseases in relationship to liver transplantation.

Key Words: Liver cancer, liver transplantation

Techniques available: Clinical research including prospective clinical studies, case-controlled studies, and retrospective database review.

Collaborators: Drs Robert Kerlan, Jeanne LaBerge, Nancy Ascher, John Roberts, Norah Terrault, Nathan Bass.

Pre-requisites: None

Minimum commitment: 6 months

Title of Elective: Viral hepatitis and general hepatology

Preceptors: Hal F. Yee, Jr., M.D., Ph.D.
Tel: 415-206-4808; e-mail: hyee@medsfgh.ucsf.edu
Mandana Khalili, M.D.
Tel: 415-206-4766; e-mail: Khalili@itsa.ucsf.edu

Description: Four month focused clinical rotation at SFGH consisting of mentored clinical research and outpatient clinics and procedures in hepatology under the direction of Drs. Khalili and Yee.

Key words: Hepatitis A, B, C, decompensated cirrhosis, acute hepatitis, hepatic neoplasms.

Procedure training: Needle biopsy of the liver (2-3 weekly).

Pre-requisites: Completion of the 1st year of fellowship.

Minimum commitment: 4 months.