Abdominal Imaging Fellowship Resources 2014-15

General Resources:
- All UCLA Phone Numbers (Intranet only)
- Abdominal Imaging Clinical Schedule (Intranet only)
- Fellows' Rotation Schedule | AI Fellows' Lecture Series | Onc/Ultrasound Lecture Series
- Faculty and Staff | Expectations | Reading List | Protocols | Contrast Agents | MRI Safety | Reporting Guidelines

GI: [All GI CTs and inpatient GI fluoroscopy]
- Liver
  - OPTN Classification (Table 1 on page 4, http://optn.transplant.hrsa.gov/)
  - Efficacy of the American Association for the Study of Liver Disease and Barcelona criteria for the diagnosis of HCC (Abdom Imaging 2014)
  - CT and MRI improve detection of HCC, compared with ultrasound alone, in patients with cirrhosis (Clin Gastroenterol Hepatol 2011)
  - Macropesicular hepatic steatosis in living related liver donors: correlation between CT and histologic findings (Radiology 2004)
  - Detection and grading of esophageal varices on liver CT (Abdom Imaging 2014)
  - Esophageal varices in cirrhotic patients: evaluation with liver CT (AJR 2007)
- Pancreas
  - Pancreatic and peripancreatic diseases mimicking primary pancreatic neoplasia (Radiographics 2005)
  - Surgical resectability of pancreatic adenocarcinoma: CTA (Abdom Imaging 2010)
  - CT diagnosis of recurrence after pancreatic cancer (World J Gastroenterol 2011)
  - Pancreatic cystic lesions: discrimination accuracy based on clinical data and high-resolution CT features (JCAT 2007)
  - Performance of CTA in determining surgical resectability of pancreatic head adenocarcinoma (JCAT 2010)
- Bowel
  - Surgical Procedures for Morbid Obesity
  - Imaging in Bariatric Surgery (Br J Radiol 2011)
  - Review of Internal Hernias (AJR 2006)
  - Complications Following Nissen Fundoplication (Radiology 1979)
  - Accuracy of nonfocused helical CT for the diagnosis of acute appendicitis: a 5-year review (AJR 2002)
  - Effect of CT on false positive diagnosis of appendicitis and perforation (N Engl J Med 2008)
  - Patient gender-related performance of nonfocused helical CT in the diagnosis of acute appendicitis (JCAT 2003)
- Crohn Disease of the Small Bowel: Comparison of CT Enterography, Capsule Endoscopy, SBFT, andileoscopy (Radiology 2006)
- CT Colonography: Performance in Retrospective Multicenter Setting (Gastroenterol 2003)

Postoperative Imaging: The Esophagus (download only) | The Stomach | The Colon (download only)

GU: [All GU CTs, GU fluoroscopy, prostate MRIs, CT colonography, 3D studies]
- DynaCAD instructions (UCLA)
- CT Findings in Urinary Diversion after Radical Cystectomy (Radiographics 2009)
- Imaging of Urethral Disease (Radiographics 2004)
- Clear Cell RCC: Discrimination from other RCC subtypes at MDCT (Radiology 2013)
- MR imaging and US of female urethral and periurethral disease (Radiographics 2010)
- Fistulas of the genitourinary tract: a radiologic review (Radiographics 2004)
- Clinical practice. The incidentally discovered adrenal mass (NEJM 2007)
- Postoperative Imaging: Urinary Diversions & Bladder Augmentation

Prostate MRI:
- MRI of the Prostate (Radiol Clin N Am 2014)
- Multiparametric Prostate MRI: Update on State-of-the-Art Techniques (JMRI 2013)
- Expanding Role of MRI in Prostate Cancer (AJR 2013)
- The Role of MRI in the Diagnosis and Management of Prostate Cancer (BJUI 2013)
- Advancements in Prostate MRI (Radiographics 2011)
- Standardization of Scoring Systems used for Prostate MRI (JMRI 2012)
- Prostate MRI: Who, when, and how? (Clinical Radiology 2013)
- Multiparametric Prostate MRI in Detection of Prostate Cancer (Fortschr Rontgenstr 2014)
- Ten Pitfalls that Confound the Interpretation of Prostate MRI (AJR 2014)
- Applications for Diagnosis and Staging of Localized Prostate Cancer (Clin Onc 2013)

Prostate Biopsies:
- Optimization of Prostate Biopsy (J Urology 2014)
- MRI Guided Biopsy for Prostate Cancer Detection (Current Urol Reports 2013)
- Image Guided Prostate Biopsy (Radiographics 2012)

3D:
- CT Colonography Reporting and Data System (C-RADS) (AJR 2014)
- C-RADS: A Consensus Proposal (Radiology 2005)
- Screening CT Colonography: How I Do It (AJR 2007)
- Pitfalls in CT Colonography (Radiographics 2007)
- Utility of 16-MDCT angiography for comprehensive preoperative vascular evaluation of laparoscopic renal donors (AJR 2006)
MRI: [All MRIs (except prostates and Dr. Lu/Raman/Bahrami clinic patients) and outpatient fluoroscopy]

- **Nephrogenic Systemic Fibrosis**
  - Ten-year experience with NSF: case-control analysis of risk factors (JCAT 2009)
  - Risk of NSF in liver transplantation patients (AJR AJR 2011)

- **Liver MRI**
  - Quantification of Liver Fat with MRI (Magn Reson Imaging Clin N Am 2010)

- **MR Enterography (MRE)**
  - CT and MRE in Children and Adolescents with IBD (Radiographics 2013)
  - Crohn's Disease Activity: Proposal for a new MRE Score (Radiol Med 2013)
  - Accuracy of MRE in Assessing Response to Therapy in Crohn's (Gastroenterol 2014)
  - Imaging Crohn Disease: MRE (JCAT 2014)
  - Role of MRE in Differentiating Fibrotic and Active Inflammatory Small Bowel Stenosis in Patients with Crohn's Disease (J Clin Imaging Sci 2011)

- **Pelvic Floor Dysfunction**
  - Pelvic Floor Study Reporting (UCLA)
  - Role of Static and Dynamic MRI in Surgical Pelvic Floor Dysfunction (Radiographics 2008)
  - MRI of pelvic floor dysfunction: Review (AJR 2008)
  - Grading Pelvic Floor Prolapse using MRI (Urology 1999)

- **Perianal fistulas**
  - MRI Evaluation of Perianal Fistulas: Classification System (Radiographics 2012)

- **Gynecology**
  - Role of MRI for Evaluation of Uterine Leiomyomas (Radiographics 2012)
  - Revised FIGO Staging for Uterine Malignancies: Implications for MRI (Radiographics 2012)

- **Defecography**
  - Defecography (Radiology 1985)
  - Anorectal Function: Defecographic Measurement in Asymptomatic Subjects (Radiology 1989)

- **Fluoroscopy**
  - Double Contrast Upper GI Exam: Technique and Interpretation (Radiology 1988)
  - Hysterosalpingography (Radiographics 2006)

- **Preoperative Staging of Rectal Cancer with MRI** (Radiographics 2006)
- **MRI of Placenta Accreta** (AJR 2011)
US: [All outpatient US, clinic MRIs done by Drs. Lu, Raman, and Bahrami]

- Doppler US of the Liver (Radiographics 2011)
- SRU Management of Thyroid Nodules Consensus Guidelines (Radiology 2005)
- US of Abnormal Uterine Bleeding (Radiographics 2003)
- Carotid Doppler (Radiographics 2005)
- Upper Extremity DVT Evaluation (J Ultrasound Med 2005)
- Emergency Ultrasound of the Scrotum (Current Prob Diagn Radiol 2011)
- Diagnostic Criteria for Nonviable Pregnancy Early in the First Trimester (NEJM 2013)

Oncology: [All PET/CTs]

- Response Criteria in Oncologic Imaging: WHO, RECIST, mRECIST, PERSIST, Choi, Cheson (Radiographics 2013)
- Revised RECIST Guideline Version 1.1 (AJR 2010)
- mRECIST for HCC (Semin Liv Dis 2010)
- Pearls and Pitfalls in Interpretation of Abdominal and Pelvic PET/CT (Radiographics 2006)
- Incidental Findings on PET/CT That Do Not Accumulate FDG (AJR 2006)

CSIR: [All nonvascular abdominal interventional procedures]

- Reporting Guidelines
- Consensus Guidelines for Periprocedural Management of Coagulation Status and Hemostasis Risk in Percutaneous Imaging Guided Interventions (JVIR 2012)
- CT Guided Biopsy of Deep Pelvic Lesions (Radiographics 2004)
- RFA
  - Spectrum of CT Findings after RFA of Liver Tumors (Radiographics 2008)
  - RFA of HCC: treatment success as defined by histologic examination of the explanted liver (Radiology 2005)
  - RFA of HCC: can subcapsular tumors be safely ablated? (AJR 2008)
  - Microwave liver ablation: influence of hepatic vein size on heat-sink effect in a porcine model (JVIR 2008)
  - Percutaneous ablation of HCC: current status (JVIR 2010)
  - Percutaneous RFA of HCC as a bridge to liver transplantation (Hepatology 2005)
  - Interpretation of CT and MRI after RFA of hepatic malignancies (AJR 2003)
  - Influence of large peritumoral vessels on outcome of RFA of liver tumors (JVIR 2003)
- Percutaneous Nephrostomy (Radiographics 2002)
• The day before each case:
  ○ You can check the schedule of patients in Epic
  ○ Make sure all patients have
    ■ 1. Labs within 2 weeks (CBC, BUN/Cr, INR), also check for “Outside Labs” under notes, Media, and Labs. Renal transplant biopsy patients usually have all labs except coags already ordered.
    ■ 2. H&P or consult/proGRESS note within 30 days, must contain ROS, social history, family history
  ○ Enter pre-admit orders:
    ■ Epic -> Encounter -> New Encounter -> “Hosp/Surg Orders Only” Encounter and “RR IR” for Department -> MRN to select patient -> “IR Pre Procedure to Home” order set -> Check Admit to PTU, enter labs if needed, insert peripheral IV, any antibiotics (see below) -> Sign and Hold (Reason for holding is “RN will release”)
  ○ Lung biopsy patients also need a “blood patch”.
  ○ Liver RFA patients also need a Type & Screen, LFTs if not within 2 weeks, and Cipro 400 mg IV once as part of their pre-admit orders. Need to be discharged with Cipro 500 mg PO (check dose) for 3-5 days, depending on risk factors.
  ○ Prostate MRI biopsy patients also need Cipro 400 mg IV and Flagyl 500 mg IV as part of their pre-admit orders. They may need to be discharged with up to an additional 5 days of antibiotics (talk to them to see if their referring doctor has already put them on antibiotics and how much they have left).

• Before each procedure: (Select patient by going to Epic -> Patient Station -> MRN)
  ○ Place an ASA Classification: under Pre-proc on the left tab, choose ASA Classification and fill out appropriate boxes and select a classification
  ○ Obtain consent (paper chart): nurses will inform you of patient’s arrival to PTU, where outpatients should be consented; inpatients may be consented in the procedure suite as they arrive; Note: All patients except renal transplant biopsy patients should also be consented for sedation and analgesia (separate form).
  ○ Consent for possible procedures to avoid issues, i.e. “lung biopsy with blood patch and possible chest tube placement.” “Liver ablation with tract ablation and possible hydrodissection and possible biopsy.” “Renal / liver biopsy with gel foam embolization.” Get a sense of if patients may need conscious sedation even if it is a simple renal transplant biopsy, and if unsure, consent them for it anyways.

• After each procedure: (Select patient by going to Epic -> Patient Station -> MRN)
  ○ Complete a pathology requisition for all biopsy specimens (and also an FNA form for lymph nodes and non solid organ masses), as well as a cytology form for targeted masses (except prostate): ordering physician is referring provider, sign your name, send a copy to attending radiologist, find provider IDs on the order form or on mednet; if it is an aspiration, fill out a culture request
  ○ Place orders for all outpatients: choose Pre-proc from left tab -> Order Sets -> IR Post Procedure Outpatient to Home for most patients -> input discharge time, activity (bed rest), diet, pain meds prn (depends on attending but at least 3 hours
observation after most procedures traversing solid organs), diet to be started 1 hr post procedure

- For post lung biopsy, need CXR at 1.5 and 3 hours post procedure
- Enter a procedure note in Epic: under Notes on the left tab -> New Note -> type of note: Procedures -> use smart phrase template
- Dictate the study in Powerscribe after the tech has completed it; use the standardized IR templates if available
- Note the case in your own procedure log for future reference

- Admitting patients: If a patient requires admission (usually RFA cases that start after noon or patients with complications or excess pain), page the hospitalist on medicine observation (under name, search for medicine) and tell them about the patient, then place admit orders (admitting attending = medicine observation hospitalist and attending physician = radiology attending for case)

- Tips for success
  - Get your templates, smart phrases, and customized order sets ASAP
  - Arrive between 7-7:30am daily and ensure patients are consented early
  - Ensure the patients are ready and encourage nurses to bring down ready patients to allow two procedure rooms to almost operate in parallel
  - The greatest obstacles to completing the days’ cases are delay in obtaining labs, delay in correction of coagulopathy or hypertension, delay in consent, and delay in bringing patients down when possible
  - Fill out your path forms before starting procedure
  - Make sure the pathologist is called at the right time if there is a biopsy; for research studies, the tissue may need special processing - find out beforehand what the clinician wants and don’t hesitate to page them!
  - Find out a patient’s allergy history and if they have had complication with antibiotics prior to filling out their prescription - same goes for pain medications as some patients have specific preferences; have the prescription ready for them prior to discharge (get attending to fill it out)
  - Inpatients:
    - Find out if an inpatient is not consentable prior to bringing them down
      - Obtain family phone number and get phone consent ahead of time, or have family meet you downstairs in the procedure room (not waiting room)
      - Do not use 2 physician consent without reasonable attempt to contact family or life threatening emergency
    - Find out exactly what clinicians want (also applies to some outpatients): Labs for fluid, if they want a drain placed or not, type and size of drain if so, specific lesion to be biopsied if multiple targets, etc.
  - Urology outpatients: These patients tend to need a whole lot of hand holding because sometimes they expect the procedure to “resolve” their issues when there is really no such promise. Speak carefully to these patients. For example, I’ve had outpatients referred for nephrostomy tubes and they do not understand
that there will be tubes hanging out of their body until it can be converted into a nephroureteral stent and then internalized. I have also had patients referred for nephrostomy to help heal lower urinary tract fistulas, who then unrealistically expect their fistula to stop putting out urine immediately. Make sure you know what their surgeon’s thought process and plans are, as well as their surgical history before you talk to them. Otherwise it can be very awkward.

Conferences: (need to update)

- **Monday**
  - MRI conference 7am, RR 1621 [all]
  - Lecture 8am, RR 1621 [all]
- **Tuesday**
  - Urology Tumor Board every other week 1:30pm, MP 200 Clark Urology Conference Room [GU Fellow]
  - Nephrology rounds, 1pm (TBA), MP 200 Clark Urology Conference Room [GU Fellow]
  - Multidisciplinary SurgOnc Conference 5pm, RR B level [GI Fellow]
- **Wednesday**
  - Fetal MR conference? [US Fellow?] 
- **Thursday**
  - Hepatobiliary Conference 7:30 am, RR B level [GI Fellow]
- **Friday**
  - Renal donor conference every other week 7am, MP 200 Clark Urology Conference Room [GU Fellow]
  - GI conference 8am, RR 1621 [all]
  - Gyn/onc Tumor Board 11am, MP200 B level, Rad onc Conference Room [GU Fellow]
- **OUTSIDE CONFERENCES**
  - LARS (Midwinter, ultrasound dinner series, etc.): Be sure you claim your CME credits because this is not an accredited ACGME program
  - Body Club (at UCLA or USC)