Making Headway Internationally

The Department of Radiology and Imaging Sciences has established many working relationships internationally. As a department we strive to create and foster an environment for international programs and partnerships that will be long-standing. Last year, many faculty members traveled abroad, exchanging information and education programs with other medical institutions.

A Journey to Japan

Emory Interventional Radiology has become a national leader in minimally invasive liver interventions. In particular, Emory IR is one of the busiest services in the US in treatment of portal hypertension. Portal hypertension is most commonly the result of chronic liver disease where intra-abdominal veins draining to the liver become dilated and prone to rupture. In the event of clinical signs of pending rupture or frank rupture, the interventional radiologist creates a shunt through the liver (Transjugular Intrahepatic Porto-systemic Shunt or TIPS) to decompress the dilated vessels. While these pathologies exist in Japan, the technologies needed for creation of these shunts do not.

Their alternative is a new procedure called Balloon-occluded Transvenous Retrograde Obliteration (BRTO). BRTO involves placing a detergent-like substance in the dilated veins of the stomach resulting in the obliteration of these veins and subsequent decreased risk of bleeding. Despite our vast experience with portal hypertension management, the Emory experience with this procedure is limited. Interventional Radiologist Roger Williams, MD recently traveled to Japan to observe BRTO, exchange management techniques and hopefully create an international exchange program.

Dr. Williams’ journey to Japan began two years ago at the Society of Interventional Radiology meeting in Chicago; there he met speaker Keigo Osuga, MD, who is an interventional radiologist at Osaka University. Since Dr. Williams can speak conversational Japanese, they were able to discuss the BRTO procedure in depth. Following the meeting they kept in touch. In the summer of 2012, Dr. Osuga invited Dr. Williams to Osaka University. With the help of Dr. Kevin Kim and the interventional radiology faculty, his schedule was restructured to allow him to visit Osaka University for 3.5 weeks in late June.

Dr. Williams arrived in Japan Thursday midday and was at work in the Osaka University IR lab on Friday morning, where he was introduced to the staff and fellows. He and Dr. Osuga reviewed the itinerary for his stay, which included visiting four other hospitals and a three-day stay at the National Cancer Center in Tokyo. His first BRTO case was on Monday morning. Dr. Osuga ensured multiple cases for Dr. Williams to observe by recruiting patients to the university; the first patient was from Kagashima, Japan. The patient had recently emigrated from China and required an interpreter. Very similar to our practice here they saw the patient in the pre-procedural area, obtained consent, and then transferred the patient to the IR lab. Japanese IR suites are technologically driven; every interventional suite has an image-intensifying tower and a CT scanner and they are utilized for almost every case. During the BRTO procedure Dr. Williams was introduced to a myriad of new catheters and drugs that are unavailable in the US. In total he and the IR team completed four BRTO cases and reviewed up to 15 cases. They had very lively case-based discussions with the fellows, covering diagnosis and treatment scenarios.

Dr. Williams’ three weeks in Japan were very rewarding. The experience allowed him to bring back technologies and techniques to better treat our patients. He met and learned from many colleagues, and established relationships that will support an exchange between our two institutions.

Ethiopia Partnership Update

Emory Radiology’s partnership with Ethiopia continues with another visit and some exciting developments. In October 2012, Emory abdominal radiologist Aarti Sekhar, MD traveled back to Addis Ababa University for 10 days with Boston University fourth-year resident Dr. Vijay Ramalingam. Dr. Ramalingam was sponsored by a scholarship from the Massachusetts Medical Society.

A major focus of this trip was providing board review for the senior Ethiopian residents who were preparing for their oral board examinations. Dr. Sekhar provided 10 hrs
Dear Colleagues,

The recent investigation into unconventional, experimental surgery performed on brain tumor patients at UC Davis Medical Center brings with it many lessons. Apparently, two neurosurgeons implanted bowel bacteria in the surgical bed of three patients without proper IRB approval. Performing human experimental work without institutional oversight and written informed consent from the subject is clearly egregious. Yet there are other aspects of this story that are disturbing. It seems that staff members who contributed to the surgical team, including nurses, pharmacists, and other physicians, failed to raise concerns.

As we all strive for truly achieving a culture of safety, we must ask ourselves whether we would speak up if challenged by similar circumstances. When functioning as a member of a team caring for a patient, we are obligated to understand the procedure or treatment being performed. With our role comes an inherent additional obligation to respectfully bring any concerns to the attention of other team members in a timely manner. Conversely, if a colleague has a question or concern, a response that promotes an open and appreciative spirit of inquiry will place another building block in our safety culture.

The end of the year is a time to reflect on the past and look with anticipation to the new year ahead. This year’s end is clouded with the utter sadness of the horrific mass shooting in Newtown, Connecticut, and the uncertainty of the Fiscal Cliff. While the former event has understandably distracted us from the latter, some of the proposed fiscal approaches to Sequestration have substantial consequences for academic medical centers. Without a successful negotiated solution, January 1 will bring $2.5 billion in cuts to the NIH budget and additional cuts to Medicare payments. Some of the proposed spending cuts in proposals to avoid the Fiscal Cliff could trim the graduate medical education (GME) funding that we depend on to train our residents.

A report just released by the Association of American Medical Colleges (AAMC) shows the large positive influence of institutions like Emory on the regional and national economy. In 2011, U.S. medical schools and teaching hospitals had a combined economic impact of $587 billion (including $255 billion in direct spending) and supported close to 3.5 million jobs. Overall, one in every 40 wage earners works either directly or indirectly for a medical school or teaching hospital. It is important that our state and federal representatives understand the importance of avoiding non-strategic budgetary reductions that could impact both health care professionals and the communities they serve.

Best to all during this holiday season and in 2013,

Carolyn C. Meltzer, MD, FACR
Chair of Radiology and Imaging Sciences

- Continuing International Outreach, continued from page 1

Lectures on the liver and pancreas. Dr. Ramalingam focused on trauma from head to toe, as BU is a major trauma center and an innovator in CT trauma protocols.

The visitors also helped perform ultrasounds (an exciting challenge for them) and read plain films. Unfortunately the CT scanner was broken. However, the new imaging building has been constructed and a 1.5T MRI scanner and 64-slice CT scanner are to be installed in the next few months.

One highlight was participating in emergency room rounds. Many of the patients are scanned elsewhere and bring their outside hospital films with them, often without a report. The Emory radiologists provided bedside consultations (much appreciated by the ER staff) and conducted a survey about the types of films and pathology seen, with plans to set up a radiology rotation in the ER. They saw many interesting and tragic presentations, mostly trauma and advanced malignancy, as Black Lion Hospital has the only emergency room in the country. The radiologists felt more directly connected to patient care in the Addis ER, than in their daily lives in the US.

Finally, Drs. Sekhar and Ramalingam also attended several important meetings.
Phases in Imaging

This month I would like to explain a little and highlight a little of the research going on in our department. With every innovation in imaging – from the microscope to the telescope – observing before unseen aspects of nature has led to advances for society. 

CT and MR are likely to have phase contrast ability in the near future, which will allow us to observe new properties of tissues. If history is a guide, this will lead to advances in understanding and diagnosing disease.

Both CT and MR detect light waves emanating from the body. The MR waves are generated by magnetic moments that are set spinning by the scanner. The waves are relatively low frequency (too low to be seen) and are detected by an antenna (coil). CT waves are generated by an X-ray tube on the other side of the body. These waves are much higher frequency (too high to be seen) and are detected by solid state detectors. In both cases, standard imaging records the magnitude of the waves and discards any information about when the peaks and troughs of the wave reach the detector. If this information were kept and found to vary due to different factors, including demonstrated leadership potential, personal accomplishments, and an enthusiastic, ambassador personality - all of which are traits needed to ensure that the 2013 WLA class is a successful one. The WLA has become a national model for leadership development among academic health centers.

When the peaks and troughs of two otherwise identical waves don’t align, they are said to be “out of phase”. Magnetic moments get out of phase due to variations in the local magnetic field. Sometimes this is intentionally induced but sometimes it is due to the tissues being measured. If the phase information is kept, then the magnetic field variations can be inferred. People who are investigating this area are hoping that the small local magnetic field variations caused by tissue variations are physiologically important.

In CT imaging, phase differences are caused by variations in the speed of light in different tissues. Consider two identical X-rays entering the body. If one passes through tissue where the speed of light is slower, it will emerge from the other side of the body slightly delayed. Then, its peaks will be slightly behind, which could be measured as a phase difference. Many tissues that have equal transmission properties have different speeds of light. Thus, a CT scanner sensitive to phase could distinguish tissues that current CT technology can not.

Dr. Tang of our Department is attempting to build a phase sensitive CT scanner. He is incorporating phase sensitive materials (diffraction gratings manufactured with nanotechnology at Georgia Tech) into the X-ray detection. Using the phase information, rather than discarding it, has the potential to reduce the radiation dose of CT by more than a factor of 100. Needless to say, this would revolutionize our field.

I take pride in being associated with the research taking place in our Department. I hope you do too!

- John Votaw, PhD, Vice Chair for Research
FOND FAREWELLS

Terry Hudson, MD, Retires

Dr. Hudson served as a Musculoskeletal Radiologist for the Department of Radiology and Imaging Sciences for 24 years. Prior to joining Emory University, he held academic positions at the Armed Forces Institute of Pathology, Harvard Medical School, and the University of Florida, College of Medicine. Dr. Hudson also was an active duty medical officer for the United States Naval Reserve. Throughout his career he has received many awards and has been an invited lecturer to conferences across the country. For over 20 years he served on the executive committee for the Society of Skeletal Radiology. The department would like to wish Dr. Hudson the best in all his future endeavors. He will truly be missed but remembered for his long-standing service to Emory Radiology.

COMMITTMENT TO EDUCATION

Perception and Knowledge on Radiation Safety of Imaging Tests

We know that the diagnostic and therapeutic procedures we perform every day saves lives. Yet, we also know that ionizing radiation from some of these procedures can produce adverse effects in both our patients and employees such as increased cancer risk and cataract. Skin burn, though not frequent, has been reported in patients undergoing interventional procedures involving high radiation doses to patients’ skin. Children and pregnant women have more stringent protection guidelines due to more rapidly growing tissues in both the fetus and child, as well as their greater life expectancy after exposure. The Radiology and Imaging Sciences Department members are the leaders in educating and advocating for patient and employee radiation safety at Emory Healthcare (EHC). Two of our residents undertook a survey of trainees at EHC to help us and the training program directors to understand the knowledge level and perceptions of radiation safety across medical and surgical specialty residencies, including our own. All results were shared with the EHC residency program directors along with local and national educational materials.

The Resident Radiation Safety Survey (RRSS) included questions about frequency of discussion about radiation safety in EHC residency programs, residents’ level of knowledge and perception about radiation exposure adverse effects and safety. Fifteen out of sixteen residency programs agreed to participate. The survey was emailed to 532 residents. The response rate was 33%. Thirty-nine percent of respondents reported that radiation safety was discussed in their curriculum at least once every six months. Same specialty faculty members and upper level residents/fellows were the most common resources for residents to learn about radiation safety. Subgroup analyses of specialties in Medicine, Surgery, Imaging and Radiation, and Obstetrics/Gynecology, demonstrated that Imaging and Radiation specialties (including Radiology, Nuclear Medicine and Radiation Oncology) discuss radiation safety in general and in special circumstances (e.g., pregnancy and children) significantly more often than other specialties.

Ninety-five percent of residents were aware of a link between radiation and the development of cancer. However, few correctly answered questions about radiation safety knowledge: 10% of residents reported the correct dose level at which fetal brain malformations occur (>200 mGy), 27% answered interventional personnel are five times more at risk of developing a cataract, 22% correctly responded that the estimated lifetime risk of cancer mortality from a single abdominal CT is 1:1500 in children, 35% reported children are approximately five times more radiosensitive than adults, and 51% accurately estimated that the radiation dose from an abdominal CT scan is 100 times more than a chest X ray. As expected, residents in Imaging and Radiation specialties had a significantly higher level of knowledge about adverse effects of radiation, specifically cataract and skin burn in interventional personnel. Interestingly, there was no significant difference in residents’ level of knowledge based on their post-graduate training level. Residents reported the importance of wearing radiation-monitoring badges and lead thyroid shields; however, fewer reported wearing them consistently, (38% and 86%, respectively). Notably, Imaging and radiation residents reported wearing badges and lead shields at significantly higher rates compared to surgical specialties.

These survey results showed surprisingly low radiation safety knowledge including risk of adverse effects of medical imaging. There is an opportunity for our department to provide education to our EHC training programs.

- Kimberly Applegate, MD
  Director of Practice Quality Improvement
- Gelareh Sadigh, MD, Intern
Financial Highlights: Leveraging the Financial Team

The Radiology Finance team is a thorough and close-knit group of dedicated professionals. Our goal is to support Radiology in its financial endeavors to gain a deeper understanding of how financial and trend reports should interact with decision making, and how net income or loss affects other business decisions, including financing and investing decisions, mergers and acquisitions.

The Radiology finance team is an advocate of developing partnerships with various School of Medicine and Emory Healthcare general administration groups. We are relentless with tailoring reports to meet the needs of specific programs and projects. We provide financial, statistical and trend reports, profit and loss statements, survey information and many other reports to the Radiology executive team, managers, supervisors, faculty, staff and other clients. The financial reports are distributed weekly, monthly or quarterly, based on request. In working closely with our internal customers (faculty and staff), it not only improves customer relations, but also provides an opportunity and encourage both faculty and staff involvement in financial services including:

- Financial and statistical reports
- Compass Financial internal training workshops
- Information for the Department State of Address
- Metrics for payouts
- Decision Support System (DSS) and Ad Hoc Reports
- Dashboards - capacity, scorecards, turn-around reports, etc.
- Support of Department Quality Initiatives
- Radiology Leadership Academy – facilitate financial sessions
- Generate Profit and Loss Statements
- Unlimited consultations

In summary, as business professionals, we are committed to remain informed of the changing financial standards and keeping abreast on how it affects the current and future business environment. We appreciate the opportunity and encourage both faculty and staff involvement in financial reporting.

-Vivian Smith
Assoc. Clinical Administrator

CHECK IT OUT


Quality Corner
Looking for evidence: PCORI

The Patient-Centered Outcomes Research Institute (PCORI) is a new federal organization that was mandated under the Affordable Care Act to support our journey to fully evidence-based care. PCORI is charged with enabling research that will help medical professionals both improve our care delivery systems and make the best choices for individual patients. A particular focus is comparative effectiveness research (CER) in which alternative approaches to a clinical diagnostic or therapeutic procedure are critically evaluated. CER is a great fit for Radiology as there remain numerous clinical situations in which the imaging evaluation may vary and/or involve multiple imaging procedures without clear evidence for a standardized approach.

PCORI has recently announced several opportunities for funding important research questions. In particular, an exciting “challenge” grant presents a competition to “create a system for connecting healthcare researchers and patient partners to advance patient-centered comparative effectiveness research.” (www.pcori.org/challenge) How might we address this? Perhaps asking our patient and family advisors (PFA) to join us in critically evaluating the way we do things now and how they may be done better in the future. For example, our plan to see radiology members increasingly communicate directly with patients has the potential to create a better integrated and informed patient care model.

At Emory, we have all of the ingredients to programatically grow our participation in CER and in the broader field of health services research. The infrastructure provided by the NIH-funded Atlanta Clinical and Translational Science Institute --- which links the complementary strengths of Emory, Morehouse School of Medicine, and Georgia Tech -- a strong quality program in Emory Healthcare; and substantial expertise in the Emory School of Public Health are critical strengths.

Lastly, you can apply to be a reviewer for PCORI grants. It will be important to have imaging expertise on these review panels. A unique feature of the PCORI review committees is the inclusion of multiple stakeholders including patients. I encourage you to consider applying: http://www.pcori.org/get-involved/reviewers.

- Carolyn C. Meltzer, MD, FACR
Chair of Radiology and Imaging Sciences

Updates from Imaging Applications Support (IAS)

IAS Updates

GE PACS version 4.0 & Peer Review

GE PACS vs. 4.0 & Peer Review was deployed to the Radiology Integrated Workstations.

December 1: GE PACS has fully replaced Siemens PACS MagicWeb

Two and a half years ago, as part of the transition to GE PACS, Information Services (IS) stopped sending images for storage on the Siemens PACS MagicWeb.

- All new images are now sent to GE PACS.
- IS will migrate all images in Siemens PACS MagicWeb to GE PACS. The migration is ongoing and images from 2002-2008 are in the process of migration.

Up until December 1, users – mainly those involved in research – could still access the Siemens PACS MagicWeb for images from 2002-2008. That access is no longer be available as of 12/1/12.

If you have a special need and find that your images have not yet been migrated, requests for early migration of a specific study can be made by calling 8HELP (404-778-4357). Please provide patient information, EMPI # and study type.

Cerner Upgrade

New Cerner code will be deployed at the beginning of 2013.

- Wendy Lybrand, Radiology Informatics Trainer

HR Tip

W-2’s Available Online

Are you signed up to receive your W2 online? If not, you have until January 10th, 2013 to go online and enroll.

What are the benefits to receiving your W2 online?

• No waiting on the US Postal Service
• Early availability: 2012 W2s are available anytime night or day after January 17th 2013

Sign up only once! If you have not registered in the past, you may sign up by visiting www.w2express.com or call 1-877-325-9239 for assistance.

- Season Lewis, Senior HR Associate
GET INVOLVED

Service Excellence Institute

SEI Initiative updates
In Spring of 2012, faculty and staff participated in a department-wide survey for our top three priorities to improve the patient and family experience. The survey offered 12 actionable options that were suggested by members of our department during the Service Excellence Institute (SEI) Session I. Below is a list of the top three chosen initiatives and their status:

Patient Tracking Board (HI-IQ)- The department will use HI-IQ to provide invasive procedure tracking information for patients and their families. Preliminary work is being done throughout the department for the installation of the HI-IQ. A pilot for the system will be conducted in the EUH waiting room first and then at EUHM.

Develop a Kiosk/iPad App for Self Check-in- The department will be installing several kiosks throughout the Radiology department. A kiosk will serve as an electronic check-in system. So far, one kiosk has been installed in Cardiac Imaging in Bldg. A on October 3, 2012. The Breast Imaging Center at Bldg C will be the next.

Calling/texting patients- in the process of selecting active engaged employees to join this committee. If you would like to get involved with this initiative, please contact Monica Salama (majohn9@emory.edu).

Coming this Winter
The Service Excellence Committee will set-up SEI tables in centralized locations throughout Emory Radiology. You will have a chance to submit a story of Charm or Harm to receive your custom badge holder. The committee will also be willing to quiz individuals who have not received their SEI pins.

More information to come!

IR Symposium a Success
On December 1, 2012 the Division of Interventional Radiology and Image-guided Medicine and the Emory Transplant Center presented the Symposium on Liver Disease and Transplantation Multidisciplinary Approach at the Marriott in Buckhead.

Drs. Kevin Kim, James Spivey and Stuart Knechtle organized and directed the symposium. Dr. Kim opened the event by welcoming the attendees and followed with a state-of-the-art lecture on Interventional Oncology. A total of 24 faculty members presented throughout the day on topics such as: state-of-the art transplant hepatology, transplant surgery, NAFLD (Non-Acoholic Fatty Liver Disease), and impact on OLT (Orthotopic Liver Transplantation), acute hepatitis therapies, living donor liver transplant, pediatric transplant and immunology of transplant. Advanced imaging techniques and interventional, medical and surgical therapies for liver cancer and portal hypertension were also presented.

Tiffany Deaton from Interventional Radiology and Image-guided Medicine worked with the Emory CME office to coordinate the symposium. The event was a wonderful success and the Department of Radiology and Imaging Sciences looks to the future for more of this type of CME credit course.

-Dr. Kevin Kim, Director of Interventional Radiology and Image-guided Medicine

Radiology Calendar

Week of January 7, 2013
Wed., Jan 9 –
Grand Rounds -
Stefan Tigges, MD
Lung Cancer Screening Update

Research In Progress Series (RIPS) -
Michael Owens, PhD
Estimates of CNS monoamine transporter occupancy using an ex vivo assay with human serum: correlation with PET measures

Week of January 14, 2013
Wed., Jan 16 –
Grand Rounds -
Charles White, MD
Evaluation of Acute Chest Pain in the ED: Value of Cardiac CTA

Research In Progress Series (RIPS) -
Xiangyang Tang, PhD
High resolution low dose CT imaging with phase contrast or regularized iterative statistical image reconstruction

Week of January 21, 2013
Wed., Jan 23 –
Grand Rounds -
Christopher Flowers, MD
Lymphoma Imaging: The Medical Oncologist’s Perspective

Research In Progress Series (RIPS) -
Robert Long, PhD
Recent Magnetic Resonance Studies from The 4.7T Small Animal Imaging Laboratory in Radiology and Imaging Science

Week of January 28, 2013
Wed., Jan 30 –
Grand Rounds -
Mitchell Schnall, MD PHD
Design and Results of the NLST, Implication for Lung Cancer Screening

Research In Progress Series -
Mitchell Schnall, MD PHD
Personalized Approach to Breast Cancer Detection

For times & locations visit the website: www.radiology.emory.edu
GET INVOLVED

A Season of Celebration

This year, the Emory Radiology and Imaging Sciences Department hosted its annual Holiday Party at Park Tavern in Midtown. Guests were able to enjoy the beautiful venue overlooking Piedmont Park. Upstairs, the DJ played various music ranging from oldies to current chart topping songs. All night long, the dance floor was booming with faculty, staff and their guests enjoying the beats. Ernest Garcia, PhD, Professor of Radiology and Imaging Sciences, described the party best by saying the event was “awesome! The dancing was spectacular – the ladies were really on point before the guys were convinced to get involved as well.”

Downstairs, the atmosphere was more causal as guests got cozy by the fireplaces and roasted marshmallows to make their own s’mores. Numerous people geared up to take on ice skating in the outdoor heated tent. Everyone was supportive as groups gathered around the rink to cheer on those participating on the ice. Debra Smith, Associate Clinical Administrator, mentioned her favorite part of the evening was “watching her husband on ice skates for the first time in his life.”

Lastly, guests laughed the night away as they “dressed up” with props to take pictures in one of the two photo booths placed around the venue. Linda Gunsby, Radiology Service Manager, stated she “had a wonderful time and the venue was very nice. Everyone was having a good time.”

Jim Fitz, Nuclear Medicine Tech Supervisor, said that his “wife thoroughly enjoyed the event as well and provided her an opportunity for her to meet many of the people I work with on a daily basis. The venue environment was cozy and the perfect setting for this event.” Additionally, Mo Salama, Assistant Director for Imaging Informatics, enjoyed the fact that “the venue was compartmentalized with all the different activities that were available for guests.”

If you were unable to attend this year’s Holiday Party festivities, we look forward to seeing you next year. Do not forget to partake in the Department-wide survey in February to cast your vote to help determine the location for the 2013 event!

- Alaina Shapiro, Program and Event Coordinator

NEW FACES & APPOINTMENTS

Angela Huff
Residency Program Coordinator 1

Angela joins the team at EUH with several years of administrative experience. Prior to joining Emory, Angela served in the United States Army. She was anAutomated Logistical Specialist, handling the largest portion of the Army’s logistics needs. Angela will bring her experience and skills to our Education office as the Residency Program Coordinator.

Look for a new issue of the Rad Report the first full week of February.