Beth Israel Deaconess Medical Center | A teaching hospital of Harvard Medical School
April 1, 2011 Volume 3, Number 9

Radical Views...

from the Department of Radiology April 2011

Mon	Tues	Wed	Thurs	Fri
3:00-4:00 ED section meeting (monthly) [ED annex, WCC] call Sheila Blalock 4-2506	1:00-2:00 MRI meeting (Weekly) [TCC-484]	Weekly Wed Section Meetings: 11:00-12:00 MSK clinical conf 12:00-1:00 Thoracic Imaging, GI Oncology/GU Oncology 3:00-4:00 Mammo [TCC-484]	Weekly Thurs Section Meetings: 12:00 - 1:30 Abd [WCC-354] 12:00-1:00 MSK	1 8:00-9:00 Grand Rounds: New evidence-based guidelines for imaging of aortic disease (Drs. Litmanovich and Ridge) 12:00 - 1:00 Neuro conference (Dr. Peri)
4 7:30 - 9:00 (Dr. Sun)	5 7:30 - 8:15 Board Review (Dr. Ahmed) 8:15 - 9:00 (Dr. Reddy)	6 7:15 - 8:00 US meeting (WCC-304A Gallery) 7:30 - 8:15 Chest board review (Dr. Boiselle) 8:15 - 9:00 Chest board review (Dr. Boiselle)	7 7:30 - 8:15 Case Conference (Dr. Khosa) 8:15 - 9:00 Case Conference (Dr. Fisher) 2:00-3:00 West Med-Rads	8 8:00-9:00 No Grand Rounds **EVENT: NERRS** 7:00-9:30 pm Harvard Radiology Resident Mixer at Jillians
11 7:30 - 9:00 (Dr. Lee) **EVENT: Mentoring Program:** How to do a good powerpoint presentation (Alex Bankier) 12:00-1:00 pm	12 7:30 - 9:00 Board Review (Dr. Lai) 10:30-11:30 Nuc Med meeting (GZ-103)	13 7:30 - 8:15 US Cases (Dr. Romero) 8:15 - 9:00 NM Board Review (Dr. Parker)	14 7:30 - 8:15 MSK Board Review (MD) 8:15 - 9:00 MSK Board Review (Dr. McMahon)	15 8:00-9:00 Grand Rounds: Evidence-based acute stroke imaging (Dr. Ramon Gilberto-Gonzalez, MGH) 12:00 - 1:00 Neuro (Dr. Hackney)
18 EVENT: Patriot's Day	19 7:30 - 8:15 Board Review (Dr. Williams) 8:15 - 9:00 (Dr. Reddy) 8:00 - 9:00 IR meeting [West Recovery Rm]	20 7:30 - 8:15 Chest Board Review (Dr. Romero) 8:15-9:00 Chest Board Review (Dr. Romero)	21 7:30 - 8:15 Case Conference (Dr. Case) 8:15 - 9:00 Case conference (Dr. Peri)	22 8:00-9:00 Grand Rounds: New concepts in the imaging of cochlear dysplasia (Dr. Moonis) 12:00 - 1:00 No noon Neuro conf.
25 7:30 - 9:00 (Dr. Kruskal) 5:30-8:30 pm EVENT: ED Exam (1st yrs only)	26 7:30 - 9:00 Board Review (Dr. Dialani) 10:30-11:30 Nuc Med meeting (GZ-103) 2:00-3:00 West Med-Rads	27 7:30 - 8:15 US Cases (Dr. Sheiman) 8:15 - 9:00 NM Board Review (Dr. Donohoe)	28 7:30 - 8:15 MSK Board Review (Dr. Kung) 8:15 - 9:00 MSK Board Review (Dr. Hochman)	29 8:00-9:00 Grand Rounds: Chief Rounds 12:00 - 1:00 No noon Neuro conf.

Save the dates: *Monday May 23 -* ***Morrison Research Day*** *(Any trainee who would like to present, please contact Donna Wolfe at dwolfe@bidmc.harvard.edu)*
Friday June 10 - Fleischner Graduation, Harvard Club (Commonwealth Ave)

DEPARTMENTAL NEWS, AWARDS & HONORS

FROM THE CHIEF

Jonathan B. Kruskal, MD, PhD

Diana Litmanovich

Elena Vinogradov

- **I am pleased to announce the promotions of Drs. Diana Litmanovich and Elena Vinogradov**

In March of this year, the Associate Dean of Faculty Affairs announced the approval of the promotions of:

Diana Litmanovich, MD - Assistant Professor of Radiology (effective December 1, 2010)
Elena Vinogradov, PhD - Assistant Professor of Radiology (effective January 1, 2011).

Dr. Litmanovich is a member of our esteemed Thoracic Imaging Section and heads the subspecialty of Cardiac Imaging. She earned her MD degree from Technion Medical School, Haifa, Israel in 1999, followed by an internship in Internal Medicine and Surgery at Rambam Medical Center, Haifa, Israel. She first came to BIDMC as a Thoracic Imaging Fellow and upon completion, was invited to join the staff in January 2008.

Dr. Vinogradov earned her PhD in chemical physics at the Weizmann Institute in Israel before coming to BIDMC as an MRI Research Fellow under Robert Lenkinski. She joined the faculty in 2006 and continued her innovative and well-published research in the development and application of new MRI contrast agents and their translation into clinical practice. In 2010 she joined the editorial board of the Journal of Magnetic Resonance.

Of note is the fact that both Diana and Elena are recipients of our Morrison Research Prize and Fleischner Young Investigator Awards! Please join me in congratulating Drs. Litmanovich and Vinogradov on their well-deserved promotions.

DEPARTMENTAL NEWS, AWARDS & HONORS

- **Congratulations Deborah Levine, ELAM Class of 2012**

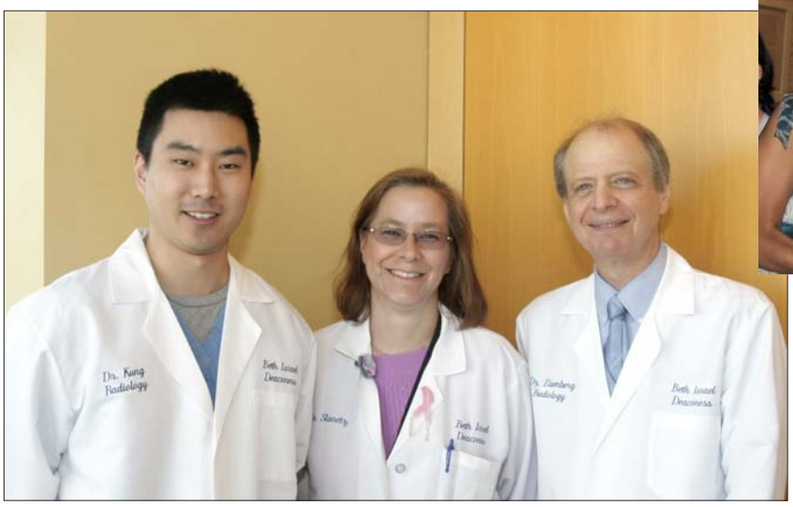
  Please join me in congratulating **Debbie Levine** who has been accepted as a Fellow in the 2011-2012 Class of the Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Program for Women. This extremely competitive and prestigous program is the nation's only in-depth course focused on preparing senior women faculty at schools of medicine, dentistry and public health for institutional leadership positions where they can effect positive change. ELAM's year-long program develops the professional and personal skills required to lead and manage in today's complex healthcare environment, with special attention to the unique challenges facing women in leadership positions. Nearly 700 senior women leaders have participated in the program since 1995. ELAM alumnae make up 25% of the executive positions in academic medicine and dentistry that are held by women. I cannot think of a more deserving Fellow than Debbie and wish her every success and many happy hours of studying!

  Congratulations - we are all extremely proud.

- **Kudos from Alice Lee, BIDMC Vice-President for Business transformation**

  "*Thank you for sharing an update on where you are with your CI efforts [LEAN efforts reported in March Radical Views]. Love it! If you are OK, we'd love to share with the post-grads. We had a great meeting this morning (standing room only as we continue to add more grads) where we heard about improvements and engagement approaches. Mainly, everyone likes to know what else is happening and share stories with each other. We will be starting other experiments to help facilitate the sharing.*"

- Residency Program: Changing of the Guard



L to R: New Residency Program Leaders, Drs. Justin Kung, Priscilla J. Slanetz and Ronald Eisenberg

Outgoing Residency Director, Dr. Jim Wu (center) being carried out by the graduating residents at the Museum of Fine Arts Boston (Fleischner 2010).

I am pleased to announce the following changes to the leadership of our Residency Training Program. Effective June 30, 2011, Priscilla J. Slanetz, MD, will become the new Director, Radiology Residency Program. She will be assisted by two new Associate Program Directors, Ronald Eisenberg, MD, JD, and Justin Kung, MD.

Since joining our faculty in 2009, **Priscilla** has served as an Associate Program Director for Career Development with primary responsibilities for curriculum development, oversight of the QA elective, resident mentoring and career development. Priscilla is extremely excited about this new opportunity, and will transition into the position with support from Jim. She has a vision which includes enhancing trainee academic productivity, introducing global health into our curriculum, teaching our residents to be outstanding teachers, and introducing methods to improve the efficacy of our teaching.

In the three and a half years that **Ron Eisenberg** has been on staff, he has proven his commitment to medical education countless times through his publications, innovative courses and creating unique publishing opportunities for residents. Ron has also been appointed leader of the Academic Research Subcommittee under Dr. Debbie Levine's Education Operations Committee.

Justin Kung, a recent graduate of both our residency and fellowship programs, and current staff physician in our MSK Division, will lend valuable insight and support to the residency program in his Associate Program Directorship role.

I am truly indebted to **Jim Wu** for the outstanding job he has done as Program Director. Running a large training program is a demanding responsibility and challenging experience, and Jim has done so in his typically calm and efficient manner. He has positioned the program so well in anticipation of new Board changes, and all of us are appreciative of what Jim has done. He has always been an extremely popular and effective Program Director, and has done a masterful job throughout his tenure. Jim, a true triple threat, has now chosen to focus on another of his passions, academic excellence, and we look forward to yet further advances as he shifts focus to MRI of the MSK system. Residents of course will continue to benefit from his clinical and teaching excellence during their MSK rotations.

I'd also like to acknowledge the countless hours that Associate Program Director **Kevin Donoho**e has devoted to overseeing the resident recruitment, interview and selection processes. Kevin deserves our sincerest gratitude and heartfelt thanks for managing this challenging portfolio and for recruiting such an outstanding group of residents that we currently have. As much as is possible, Kevin has tried to see the art in what some consider a science of attracting the top applicants, and Kevin has succeeded admirably. Thank you Kevin.

I have no doubt that Priscilla, Ron and Justin will continue to build upon the extraordinary legacy of Ferris, Gil, Herb, Brook, Hiroto, Kevin, Bettina and others. Their collective knowledge, enthusiasm, expertise and insight will ensure that our training program will continue to flourish, will remain innovative and unique, will always attract the best applicants, and will continue to train the next generation of outstanding radiologists just like it has always done.

Please join me in congratulating Priscilla, Ron and Justin on this new jouney in their academic lives.

- Jonny

On behalf of the residents...

This month we received the news of the change in attending leadership for our residency program with mixed emotions: on one hand, excitement for the future of the program, and on the other, deep gratitude to Drs Jim Wu and Kevin Donohoe for their commitment to the residents these past several years.

We began our tenure as chief residents at the start of this calendar year and since that time, it has been our pleasure to work closely with both Jim and Kevin. Jim's steadfast commitment to the residents and incredible work ethic were apparent from our very first meeting. Each week, we are greeted by a lengthy and daunting agenda of issues, all of which Jim tackles head on and with commendable efficiency. It was this drive, as well as his sincere desire to improve resident education, that has recently been the primary engine of change in the residency program. Kevin has also been a staunch advocate for the residents during his time as Associate Program Director. Additionally, he has successfully guided the program through numerous years of the match. Countless times during the past interview season, his humour, experience and ability to see a trainee's potential proved invaluable. Both Jim and Kevin's strong leadership and advocacy for residents will be sorely missed.

However, these sentiments are balanced by the announcements of our new program directors. Dr. Slanetz transitions from an Associate Director to the primary Program Director, and her experience in the former position ensures a smooth transition. She has a consistent track record of interest in trainee education and this passion will serve the program well. We are also excited for the addition of Drs Eisenberg and Kung. Dr. Eisenberg's experience as a leader in Radiology and Dr. Kung's intimate knowledge of the program from the perspective of both a trainee and now an attending will provide valuable new perspectives. Perhaps most importantly, all three bring to the table thoughtful and approachable personalities.

So, on behalf of the residents, we would like to welcome our new program directors. We look forward to a productive remainder of the year. Also, most importantly, for all of the hard work and time they dedicated to the residency program, we would like to say "Thank You" to Drs. Wu and Donohoe -- you both leave big shoes to fill!

– Sachin Pandey/Adam Jeffers, Chief Residents

- **Annual Transporters Appreciation Luncheon**

  On Thursday March 24th, the transporters were honored at their annual luncheon in the West Campus Gallery. Of course, no celebration would be complete without Dr. Rob Sheiman!

L to R: Clinical Dx Instructor Ana Cordero, Transporters Hope Lee, Sam Senat, Nursing Assistant Acelia Pluvoise, Transporters Joseph Eloi, and Fritz Honore (Supervisor), Senior Dx Tech Jeanne Eason and Dr. Robert Sheiman pause for a picture before diving into the pizza!

Thank You

I would like to thank the Radiology Department for all the cards, gifts and well wishes for myself, as well as Katie, during my recent hospitalization. The support of so many helped Katie get through a very scary situation. I am proud to be part of such a caring "family".

God Bless,
-Leanne Linscott

- **Welcome Carl Nickerson & Co. to the West Campus**

  Our HMFP staff Carl Nickerson, Liz Arsenault and Shakinah Jenkins will now call the West Campus (3rd floor room 327A) home. They can now be reached at:

Carl Nickerson - Mgr, HMFP	4-2335
Liz Arsenault - HMFP Admin Coord	4-2327
Shakinah Jenkins - HMFP Admin Asst	4-2337
Fax	4-2371

- **From the Rare Sightings Archive**

Former MRS President Dr. Brian Acker (left), Dr. Priscilla J. Slanetz, Governor Deval Patrick and Dr. Elaine Iuanow, (right) at the Massachusetts Radiological Society Annual Meeting at the Westin Hotel in Waltham, MA on March 3. Governor Patrick was given a plaque in recognition of his commitment to provide affordable healthcare to the citizens of Massachusetts and Drs. Slanetz and Iuanow were on hand to voice their concerns to the governor personally.

- **Milestone: 100th birthday of Jeanne Eason's father, James Guilford, JR**

  No doubt, many of you have met the father of Senior Diagnostic Technologist Jeanne Eason at our annual holiday parties; but did you know that this venerable gentleman will be celebrating his 100th birthday this year? In response to numerous inquires, Jeanne announced that a big celebration will be held on Friday Oct. 7 at Scullers Jazz Club and she kindly asks everyone to RSVP by August 30. For more details, please see pg. 18.

DEPARTMENTAL NEWS, AWARDS & HONORS

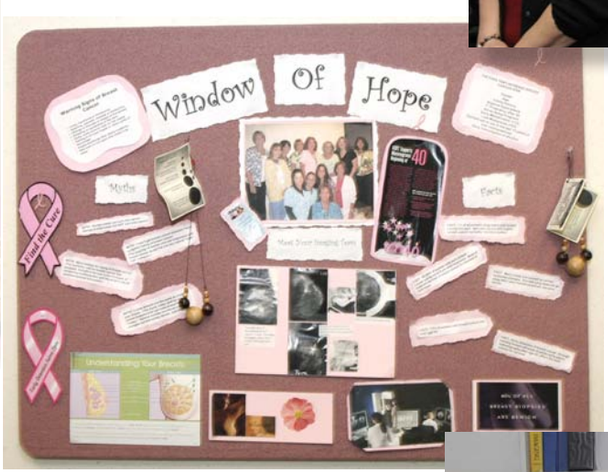
- **Lexington Celebrates its Newly Designed Breast Imaging Suite**

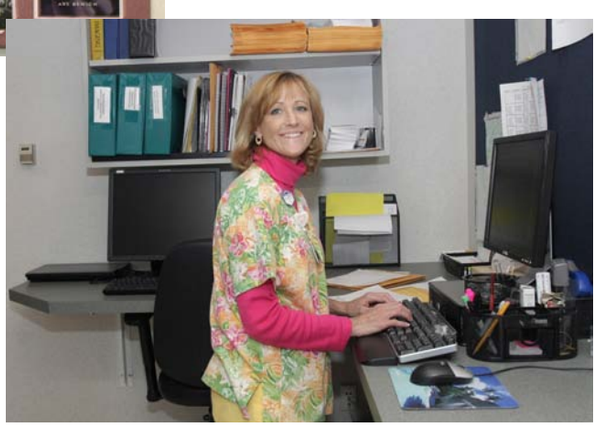
On Tuesday, March 8th, the radiology department in Lexington celebrated the opening of their newly designed breast imaging suite. Staff within the building were invited down to tour the new suite and join in the festivities. Patients were also given a tour and a rose upon completion of their imaging. Patients were excited and very receptive to the new patient flow and had many positive comments on all the changes that they had seen from their last visit.

The project started about one year ago. With the advent of PACS and the dismantling of the existing darkroom, the department wanted to take advantage of the additional space that became available. Managers felt this was the perfect opportunity to utilize the "lean process" in evaluating the new space and the final result is a suite that offers a personalized comprehensive experience for each patient from scheduling to imaging to consultation.

Jan Carpenter, Radiology Co-manager, Pam Adams, Manager of Shared Services, and Judy Farina, Radiology Co-manager all helped to design the breast imaging project and see it through to completion.

Stacey Forbes from OB enjoying the open house





Mammographer Tracy Nadeau working in the new QC area

Breast Imaging Team

Right: Judy Farina, Radiology Co-manager and Annmarie Colt, Practice Representative displaying the new check-in area

Congratulations Lexington!

DEPARTMENTAL NEWS, AWARDS & HONORS

- **Congratulations Graduating Ultrasound Technologists**

Graduating Ultrasound Technologists (L to R) Emily Dockham, Maureen Lewis, Julia Muskoge and Caitlin Buchsteiner pasue for flowers with program Director Cory Finn.

On March 2, 2011, the School of Diagnostic Medical Sonography under the leadership of Cory Finn, Program Director and Deborah Levine, Program Medical Director graduated their third class of ultrasound technologists: Caitlin Buchsteiner, BA, RT; Emily Dockham, BS; Maureen Lewis, BSBA; and Julia Muskoge, AS, RTR.

OUTREACH 2011 - Rola Shaheen in South Africa and the Middle East

The SORSA-RSSA 2011 Imaging Congress was a joint Initiative of the Society of Radiographers of South Africa and Radiological Society of South Africa, sponsored by ISMRM and conducted by ISMRM members as part of ISMRM educational outreach activities.

In November 2010, Dr. Rola Shaheen shared her outreach efforts in the Middle East with us and the following is an update on her continuing work in Breast Imaging and Breast Cancer Awareness. In March 2011, she and her colleagues, including former BIDMC faculty Sughra Raza, conducted an ISMRM breast MRI course at the SORSA-RSSA 2011 Imaging Congress in Durban, South Africa, which was very well recieved. (See below)

To all,

Thank you very much for a most successful and enjoyable Breast MRI course. The feed back is overwhelmingly positive as well as appreciative with an element of stunned surprise at the quality and excellence of all your lectures. The comment "you all have been round the block" surfaced on more than one occasion. Most importantly, you have set the standard for Breast MRI in South Africa, taking the modality forward.

The RSSA website had many hits as from Monday to access your lectures and I want to thank you on behalf of all RSSA members for this generous gift to Southern African Radiology.

I also had some inquiries wrt ISMRM membership. You have been true ambassadors for the academic cause as well as the ISMRM GOP.

Thank you once again and I hope to see you in Montreal.
With best wishes and kind regards,
Sincerely,
Leon.
Prof. Leon J van Rensburg.
MBBCh ,MMed(Rad.D), DSc .
RSSA Congress Chair
ISMRM GOP Co-ordinator: Africa and the Middle East

Dr. Shaheen explores the wonders of South Africa following her course duties.

Congratulations Dr. Shaheen:

In January 2011, Dr. Rola Shaheen was appointed the Susan G. Komen regional director for the Middle East. Dr. Shaheen's role will mainly involve expanding Komen's various education, advocacy and awareness initiatives in the region, including expanding the medical professional and advocate training modules to better reach underserved women. She will also be directly responsible for identifying breast cancer research and other funding opportunities. Specifically, the Komen Global Health Alliance team, under the leadership of executive director Mrs. Joanne Manrique, is looking to utilize Dr. Shaheen's expertise to look into the breast cancer burden in the region, to identify the most culturally relevant risk factors, and the obstacles to care. They envision working in partnership with BIDMC Radiology to identify joint grant opportunities to reduce the burden of breast cancer globally.

Dr. Shaheen will also participate in an upcoming breast imaging course in Amman-Jordan in April sponsored by King Hussein Cancer Center.

Do you know... how best to deal with difficult patient encounters?

There are times in our day to day work with patients when we may experience a difficult patient encounter. Difficult encounters include those situations when a patient's behavior or response seems to be outside the framework of what we would consider the average, expectable response(s) for most patients. A patient's response and behavior may be shaped by a variety of factors including their understanding and expectations of what is to happen; prior history with medical care, tests and procedures; emotional states such as anxiety/depression; medications; substance use; culture, and many more. While no two patients will respond in the same way, there are things that we can do to enhance the experience for patients and decrease the chance that the interaction will feel difficult for the patient and the provider.

- Donna Hallett, Director of Operations

What follows are suggestions for preventing difficult encounters and tools/techniques for successfully handling difficult interactions with patients.

Establish quick Rapport:

Introduce yourself and your role. Make eye contact, smile, and let the patient know that you are going to try to make them as comfortable as possible. Explain what is going to take place and set expectations: Most patients come to a procedure with some level of anxiety and concern and this can escalate if they do not understand what is going to take place, who is going to be working with them and why the procedures are taking place.

Explain all aspects of the exam or procedure including, estimated time for procedure, number of staff involved and their role, equipment, positioning and what physical involvement there may be. If residents will be involved, explain that this is a teaching hospital and that residents are an integral part of the team, working closely with the attending physicians. If a senior tech or a physician is involved, explain that these people may be in and out so that the patient understands that this is "normal" and not indicative of a problem.

Boundaries:

Imaging of patients often requires close physical contact, in a darkened room, with a patient who is often unclothed and in a vulnerable position. For example, a 30-minute abdominal ultrasound examination involves touching patients to assess anatomical landmarks for positioning, imaging of genitalia, and placing patients in what could be perceived as compromising positions.

Some patients may experience embarrassment, discomfort or shame, so it is important to explain what will take place before beginning the exam as this will give the patient some sense of control. For example, "during the exam, I will be examining and pushing on your scrotum". . .

Ask the patient if there is anything in their personal history that might make this type of exam difficult for them, such as prior history of sexual assault/trauma.

Engage them in consent:

Ask your patient before the exam if they understand and if it is OK to begin. Ask them throughout the exam if they are OK and if it is OK to continue. The more that the patient feels that they are a "partner" in the process, the more likely they are to cooperate towards a successful procedure or scan.

There will be times when patient encounters go off track, despite all of your best techniques and efforts. For example, a patient who is verbally abusive, who makes inappropriate comments of a racial or sexual nature; or a patient who is physically abusive**,** inappropriately trying to touch a technologist during a study, a patient who is violent or insulting, angry or distraught; a patient on drugs or drunk, or the demanding patient whose requests can not be satisfied.

When all else fails, what can you do?

1st, Stop the action	2nd, Ask for help	3rd, Ask a radiologist for assistance	4th, Call public safety (2-9111)
Stop the exam or the discussion and let them know that you want to help but you can't when they are acting in a particular way (describe the behavior that is unacceptable). **Pause**, as this gives the patient a moment to reestablish self control and then **Ask** if you can continue or if they want to reschedule (if that's an option) or if they want you to get someone else to help them. ***Try to re-establish acceptable conditions to continue.***	This does not mean you did not do a good job. Sometimes for reasons that may be beyond your control, a patient may escalate despite your best efforts. In these situations it is best to ask for help as this pause in the action and/or change in personnel may be enough to settle the patient down.	Many patients perceive doctors as having a symbol of authority and will respond accordingly to that perceived authority.	If you feel that your safety or the safety of others is at risk, notify a manager of any difficult patient encounters. The managers are here to help with these situations and we want to track and monitor situations so that we can bring the appropriate resources to the department.

Utilize institutional supports:

BIDMC and the radiology department are committed to maintaining a safe environment for patients and staff. We have internal supports and resources such as HR and Social Work to provide training and support.

Please let your manager know if you would be interested in additional training or support. Once again, we are committed to making this a safe environment for patients and for staff and would welcome your thoughts about how to support you in these efforts.

DEPARTMENTAL NEWS, AWARDS & HONORS

On March 15th, a Media Alert was sent out about Drs. Kevin Donohoe and Tony Parker discussing the medical concerns of radiation following the earthquake and tsunami that hit Japan on New England Cable News (NECN) that afternoon. As many of us could not access this program, Dr. Donohoe kindly agreed to recap it for us and he was quick to use this opportunity to give us a bigger picture than what NECN was able to broadcast. (In order to help us understand this extraordinary event, Dr. Donohoe has also included a sequence of events which is presented in blue.)

Click here for the actual broadcast: http://www.necn.com/03/15/11/Medical-radiation-impact-in-Japan/landing_health.html?blockID=441378=4210 <http://www.necn.com/03/15/11/Medical-radiation-impact-in-Japan/landing_health.html?blockID=441378&feedID=4210&>

First of all, I should point out that I am not an expert on nuclear power plants. However, we in Nuclear Medicine do spend a lot of time considering radiation exposures. I have also participated in and monitored disaster drills at nuclear power plants and at hospitals that would be accepting victims from a nuclear plant accident. Accidents at nuclear power plants can range from trauma or a heart attack that does not involve any radiation exposure, to more serious injury that does include radiation exposure or contamination with radioactive materials. Part of my job during drills was to help the participants learn how to determine what kind of radiation exposure (if any) was involved, and then respond as warranted. It has been my experience that the public usually perceives the risk of radiation exposure to be much higher than it is, and as an educator at these drills, I make sure that the issue of radiation exposure is given due attention, but at the same time not so much attention that appropriate health care for victims was compromised.

The reactions to the nuclear power plant problems in Japan follow a familiar pattern. Despite the extensive destruction and deaths from the earthquake and tsunami, media attention primarily focused on the radiation exposures and damages at the nuclear power plants in Fukushima Prefecture. There are several reasons for this.

Radioactivity is something we cannot hear, smell, see or taste, so the thought that we could have it around us and not know it can be unsettling. Combine that with the knowledge that radiation causes cancer, a frightening and often deadly disease, and the fear of radiation exposure understandably becomes escalated. A reactor accident in the headlines makes us think again of the possibility of unknown exposure and the consequences of exposure. With little or no knowledge of radiation or radiobiology, fear of the unknown overtakes more rational thought processes, and can escalate beyond the level of concern that is warranted.

The earthquake and tsunami that struck Japan are the worst in their recorded history, causing a disaster of unimaginable proportion. Entire towns were destroyed and washed away. While it will be years before the final tally of the destruction and death are known, it is clear that tens of thousands of people have died and billions of dollars in damage have occurred. At the time I am writing this, millions of people are without power, food or water. It is cold there as it is here, with temperatures in the 30's at night and in the 40's during the day. Many people have no shelter or are living in evacuation centers with little food or water.

The danger to the health of the Japanese population posed by the radioactive releases from the Fukushima #1 reactor complex is difficult to exactly quantify, and because individuals respond differently to radiation exposure, it is impossible to quantify on an individual level. While exact numbers may not be possible, studies of radiation effects in the laboratory as well as the study of previous exposures, from the atomic bomb survivors to Chernobyl, have provided information that allows for estimation of the number of cancers that may result from the Japanese reactor accident.

The biggest problem with developing risk estimates comes from a problem that many people don't realize – radiation is not a very efficient carcinogen. If moderate to high doses of radiation caused cancer in 90% or 50% or even 20% of people exposed, we could more accurately calculate the number of cancers expected at lower doses. However, even the doses experienced by the atomic bomb survivors caused cancer in only a few percent of people above the normal background rates of cancer. This relatively low risk, even at high doses, means that at low doses, such as those to the population around the reactors, we can only extrapolate and estimate the number of cancers that may result from these exposures.

For example, the estimated death toll from the radiation exposure that resulted from the Three Mile Island accident is less than one. The estimated death toll from Chernobyl is around 4 thousand people over 60 years. The deaths from these accidents are estimated numbers and will likely remain estimates because the number of deaths is too small to detect above the normal cancer incidence in those areas. There were no deaths from the acute exposures at Three Mile Island, and to date there have been about 50 deaths from the Chernobyl accident, including the workers who died in the initial explosion, the firefighters who responded to the explosion, and the excess thyroid cancer cases detected as a result of the iodine contamination of the food in the area. There has been no measurable increase in other cancers to the population around the Chernobyl area.

By no means are ANY cancers or other deaths resulting from a radiation accident acceptable. The reactors in Japan should be brought under control and the contamination minimized and cleaned up where needed. But before all attention and resources are focused on the radiation exposures resulting from the accidents at the Fukushima Dai-ichi plant, the importance of those exposures should be put into perspective, and the tens of thousands of victims of the earthquake and tsunami, and the hundreds of billions of dollars of damage to that region need to be given appropriate consideration as well. The loss of life and devastation from the earthquake and tsunami have many times over exceeded any projected deaths from the reactor exposures, yet the radiation leaks at the power plant have taken center stage and the earthquake and tsunami damage have been practically side-tracked.

Irrational fears of radiation exposure have caused many people in this country to seek out stable iodine pills because they have heard that it protects them from radiation. While taking stable iodine is often well tolerated, it can cause allergic

reactions and thyroid disorders. When there is absolutely no risk in this country from the radioiodine released in Japan, large numbers of people taking stable iodine will, therefore, do more harm than good. And if we hoard the iodine in this country, it becomes less available to those that may need it elsewhere.

While efforts must continue to assure the damaged nuclear plant is brought under control and the contamination in the area cleaned up as much as possible, the different aspects of the tragedy should be put into perspective so that the health of the population in the affected area is not further compromised. As professionals that deal with radiation every day, people will look to all of us in Radiology to help them understand the importance of radiation exposure. People want "Yes" or "No" answers for questions about radiation safety, but the nature of radiation will always involve a degree of uncertainty. The uncertainty can be put into perspective, however, particularly when comparisons are made with natural radiation exposures and experience from prior accidental exposures.

A great source of information is the Health Physics Society website. http://www.hps.org/

Also, the Radiation Safety Office here at BIDMC has put together a great web page on the Japanese reactor accident with many resources. https://portal.bidmc.org/Intranets/Administrative/Silverman-Institute-for-Health-Care-Quality/RadSafe/Information-on-Japan-Crisis.aspx

– Kevin

Sequence of events - Friday March 11, 2011

Several nuclear reactor complexes shut down as a result of the earthquake and tsunami; the two most severely damaged were the Fukushima site #2: Da-ini complex (4 reactors) 100 miles southwest of the earthquake epicenter, and the Fukushima site #1: Dai-ichi complex (6 reactors), which is 96 miles southwest of the earthquake epicenter. Both complexes are on the east coast of central Japan. Other than Fukushima #1, all other reactor complexes, including Fukushima #2, were safely shut down at the time of the earthquake, and are reported to now be in "cold shutdown" with intact cooling systems.

The Fukushima #1 Plant was commissioned in 1971 and consists of 6 boiling water reactors. These reactors use nuclear fission to heat water to generate steam, subsequently generating power for the people that live in the area. Reactors number 4, 5, and 6 at this complex were undergoing routine maintenance, and were therefore in cold shutdown at the time of the earthquake. All the fuel rods on unit 4 were out of the reactor core and in the spent fuel pool. As a result of the earthquake, reactors #1, 2, and 3 automatically had their control rods inserted and therefore the nuclear fission in those reactors had been shut down at the time the tsunami struck the coast.

At 2:45 pm local time in Japan a 9.0 magnitude earthquake occurred off the east coast of Japan. Within an hour of the earthquake, a 30 foot high tsunami hit the east coast of Japan and the sites of the Fukushima nuclear plants, washing 2 kilometers inland in some places. With the scope of the disaster that struck that area, it shouldn't be a surprise that information coming out of the area was not always complete and organized. However, nuclear reactors are subject to intensive security and oversight, and despite the chaos in the area, the Nuclear and Industrial Safety Agency (NISA) of Japan and the Tokyo Electric Power Company (TEPCO) provided regular bulletins updating the media, and the people of the area about the status of the power stations. In addition, the International Atomic Energy Agency (IAEA) sent help and monitors to the area who are also providing information. There are people from several organizations monitoring radiation levels inside the facilities, at the perimeters around the plants, as well as the contamination of the people in the area.

As soon as the control rods were inserted into the reactors, nuclear fission was shut down along with more than 90% of the reactor's energy production. However, residual decay of isotopes earlier generated by the nuclear fission continues for some time. Even though this residual decay accounts for less than 10% of a reactor's energy production, the reactor fuel remains so hot that it needs to be cooled to prevent fuel pellets from melting or catching fire. Thus, cooling water is continually circulated through the reactor and the spent fuel pools while the residual radioactivity decays. Depending on the type of reactor and the length of time the fuel has been irradiated, it may take more than a year before spent fuel is cool enough to be stored in dry casks at the reactor site. It was failure of this cooling system that has lead to the problems at the Fukushima #1 reactor complex.

All nuclear reactors are required to have a series of backups for many of their safety systems. The Fukushima reactors were no exception. Reactors on the coast of Japan are also required to withstand earthquake damage of up to 7.5 on the Richter scale, and subsequent tsunamis of 15 to 20 feet high. If power to the reactors is suddenly interrupted, they are required to have backup power immediately available. The Fukushima #1 reactors had a series of backup diesel engines to supply power to the reactors after the earthquake struck, but these were swamped by the tsunami, causing the plant to lose all power and all cooling ability. Since then, the plant operators have worked to restore power and cooling to the reactors and spent fuel pools.

Because the cooling to the fuel rods has not been sufficient, some of the reactor core of units 1, 2 and 3 may have partially melted. While it is good that all the fuel had been removed from reactor 4 prior to the tsunami, that meant that the spent fuel pool at that reactor had fresh fuel that was particularly hot. Units 5 and 6 had transient, relatively small rises in temperature in the spent fuel pools before generators were able to re-establish power to the cooling systems.

The lack of cooling to reactors 1, 2 and 3 caused the generation of hydrogen gas which was trapped inside the buildings, causing at least 2 explosions and damaging the outer containment buildings of the reactors. The inner containment of reactor #3 may have been damaged by one of the explosions. There have been several fires at the reactor buildings, but it isn't clear how many of those fires (if any) were caused by the reactor fuel itself. Just as was seen at other sites affected by the earthquake, there are several reasons a fire could break out that have nothing to do with nuclear fuel. It is these fires, explosions, and the ocean water pumped into the spent fuel pools that are the greatest sources of the dispersion of radioactivity into the environment.

Since the reactor cores appear to remain intact (except for questions about reactor #3), the main danger of radioactive contamination of the environment comes from the fuel in the spent fuel pools. Fires or explosions, no matter what the cause, can disperse the radioactive material into the local environment. While there are many isotopes in nuclear reactor fuel, the ones of greatest concern at any distance from the plant itself are isotopes of cesium and iodine. Cesium-137 has a half-life of 30 years, is water-soluble and can be taken up in muscle tissue. Iodine-131, an isotope used often for treatment of thyroid disease, has a half-life of 8 days, and is concentrated in thyroid tissue.

Because of the fuel damage and environmental contamination, the accident at Fukushima #1 reactor complex has been rated a "5" on the International Nuclear and Radiologic Event Scale (INES). For reference, The Three Mile Island accident was rated a "4" and the Chernobyl accident was given the highest rating of "7".

Do you know... about Critical Results in Radiology?

In response to the recent Joint Commission visit, we are now required to audit radiology reports on a bimonthly (every other month) basis to assess for compliance with documentation of critical results. With the helpful assistance of our section chiefs and QA representatives, we recently completed our first audit. I am delighted to report that it showed >90% compliance in documenting critical results in our radiology reports and wish to thank you for your dedicated efforts with documentation. Below is our department's critical results policy. Please be familiar with the entities that require immediate, direct communication.

- Phillip Boiselle, Vice Chair of Quality, Safety, & Performance Improvement

Critical Results in Radiology

What is a "Critical Result?"

A list of critical test results requiring direct communication has been established and is detailed in departmental policy RAD-13 and in the accompanying Table. Any study with these findings must be **directly communicated** to the ordering physician, and this communication should be **documented** in the final radiology report.

What does documentation entail?

There are 4 elements to documentation that must be included in every report with a critical finding:

- Name of person contacted with results
- Method of communication (e.g. phone call)
- Time of communication
- Date of communication

How well are we doing with documentation?

A recent departmental audit found that we were 90% overall compliant with documenting critical results in the radiology report, but there was variable compliance with the individual elements of documentation. For example, although there was 100% compliance in mentioning the name of the person contacted, the method of communication was only mentioned about 70% of the time. Thus, we are doing pretty well, but there is room for improvement.

What if I experience delays in reaching the ordering provider with a critical result?

If you experience a delay, **you should document your efforts in the Urgent Communication online system found in Info Rad.** Such documentation is important for medicolegal and Joint Commission compliance purposes. It will also allow us to look for systemic issues with regard to notification (e.g. wrong phone numbers or incorrect physician names listed on the electronic order) that may help to improve communication in the future. If the study you are reading is for an inpatient, keep in mind that POE now lists nursing station telephone numbers for ICU patients and physician names or pager # for 24/7 contact regarding the remaining inpatients. **Thus, POE can be a helpful resource when you are trying to communicate urgent results.**

Critical Results in Radiology:

1. Pneumothorax, if unexpected
2. Tension pneumothorax
3. Leaking or ruptured aortic aneurysm or evidence of acute aortic dissection
4. Ischemic bowel on CT
5. Acute extra-axial brain collection, including acute subdural and epidural hematoma
6. Unstable spinal fracture
7. Pneumoperitoneum (non post op)
8. Significant mispositioning of tubes or catheters
9. Massive hemoperitoneum on CT or US
10. New brain metastases with evidence of cerebral edema
11. Ectopic pregnancy (even if suspected by ordering physicians)
12. Procedural complication
13. Appendicitis
14. New or unexpected DVT or pulmonary embolus
15. Any result not necessarily in the preceding list which the reporting radiologist feels will require immediate medical attention

Section Summary Update: Interventional Radiology/Neurointerventional Radiology

Barry Sacks, Chief

Coming back to the BIDMC for me has completed a professional circle. Having done my residency at the old BI prior to the merger, I went straight on to an IR fellowship in the same department. That was some experience because Dr. Eisenberg, the angiographer at that time told me he was leaving and did so only 3 months after I started. For the rest of that year, I was 'IT', 24/7/365, no vacation and always on call– talk about learning by getting thrown into the water and told to swim! The next year I took over the IR section and trained 4 of the junior staff to share the service with me. Believe it or not Carl Nickerson was one of our IR techs at that time, and I also trained Donna Tobey Hallett to be an IR technologist.

Although I left to go into private practice in 1982, I was back at the BI every week or two for the next 10-15 years to continue doing the parathyroid venous sampling procedures for Dr. Pallotta and gave monthly morning conferences to the residents. Not only that, I recruited all the superstar residents to join our radiology practice at MetroWest, which in essence became BI-West.

I came back to the BIDMC 5 years ago, working one day a week in IR, because after 28 years in private practice, the plan was to go part time there and I thought it would be a good idea to learn something new as well as pass on some of the tricks I'd learned over the years, to the fellows and residents. During that time the IR fellows also came out to Natick and Framingham to share the IR cases with me.

I had absolutely no intention of taking on the major new responsibilities I face at this stage of my career, so I am going to need all the help I can get, lots of luck and demonstrate endless persistence to achieve what needs to be done. I am very lucky to have young, smart, talented and energetic young bucks, Drs. Faintuch, Ahmed, Collares and Perry, to help me carry the weight and Dr. Clouse to guide me. To be honest it was only because of these people, the professionalism demonstrated by the nurses and technologists and the friendly atmosphere in the section, a family and a team, that convinced me to take this on.

Plans for the new year: We are in the process of getting a brand new angiography room that will open up many new possibilities for new procedures as well as improve techniques currently used. In terms of programs, we will push to grow a number of areas, including RF and cryoablation, varicose vein treatments, rotation to the dialysis center and involvement in the CT guided procedures. We are also planning to build the clinic service so that we can meet with patients before their procedures, discuss, explain and answer questions, as well as follow them up after the procedure to assess how they are doing.

This is a tall order but why not aim high!

– Barry Sacks

Clinical Update

Clinical activities at the main campus include vascular and non-vascular procedures, with arteriography and venography, balloon angioplasty and stent placement, chemical thrombolysis and mechanical thrombectomy, IVC filtration, venous access (ports, tunneled and non-tunneled catheters), embolization (GI, bronchial or trauma bleeding, uterine fibroids, tumors, AV malformations/fistulae), biliary procedures (drainage, cholangioplasty, stent placement, stone retrieval), renal procedures (nephrostomy, nephroureteral stents, balloon dilation, stone retrieval), foreign body retrieval, and tumor therapy, both chemoembolization and direct RF ablation.

Over the last year we have noticed a significant volume increase in the section, both during regular hours as well as on call. The complexity of the case mix has also substantially increased, particularly from the transplant service. The BIDMC affiliation with Atrius has also impacted our volume.

Aside from the interventional procedures, the full-time IR radiologists (Drs. Sacks, Faintuch, Collares and Ahmed) are also responsible for reading the US Vascular Lab, together with Dr. Sheiman. Dr. Sacks is also involved in a thyroid/parathyroid clinic.

Our 2 off-site outpatient clinics have seen continued growth in referrals and patient satisfaction:

1. **Mass Vein Care**: Located at Chestnut Hill, provides comprehensive care for patients with varicose veins, reticular/ spider veins and teleangiectasias. Services include Doppler US scanning, US-guided endovenous laser ablation and sclerotherapy, staffed by Felipe Collares, MD and Linda Paul, NP and the IR fellows.
2. **Advanced Vascular Care Center**: State-of-the-art outpatient facility located in Brighton, which provides comprehensive vascular access care for patients on hemodialysis. Services include Doppler US scanning of fistulae / venous mapping, AV fistulograms (including angioplasty, thrombectomy, stenting), placement of tunneled hemodialysis catheters, and ligation of collateral veins, staffed by Yael Vin, MD and Salomao Faintuch, MD.

New clinical services starting in 2010-11:

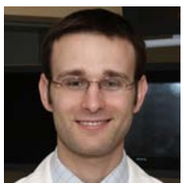
1. Chemoembolization of liver tumors with drug-eluting beads
2. Embolization/sclerotherapy of peripheral venous malformations
3. Radioembolization of liver tumors
4. Cryotherapy of kidney tumors
5. Adrenal and parathyroid vein sampling

Staffing update


Muneeb Ahmed


Melvin Clouse


Felipe Collares


Salomao Faintuch


Laura Perry


A. Suresh Reddy


Barry Sacks


Meghan Fashjian, NP


John Underhill, PA

Dr. Sacks is just completing his first year as section chief and is tremendously reliant on the other staff members to share in the responsibility of both running the department and well as organizing educational programs and initiating research.

Dr. Melvin Clouse has stepped down from the regular daily IR schedule to continue his interest and research in cardiac imaging; however, he is still involved with the IR Clinical Fellowship Program, including our latest ACGME, compliance reviews and updates.

Dr. Salomao Faintuch has assumed many of the organization functions of the department and does an amazing job. With Dr. Ahmed is one of our point people for tumor therapy, both RF ablation and chemoembolization. He is also is involved in the UFE program and our representative to the AV care facility for treatment of dialysis patients with all types of access problems

Dr. Felipe Collares has now been a staff member for 2 years. Felipe is currently leading the efforts at our outpatient varicose vein clinic (Mass Vein Care). He is also responsible for the QA in the department.

Dr. Muneeb Ahmed returned to BIDMC to join the IR section as a staff radiologist, as well as Associate Director of the Minimally Invasive Tumor Therapy lab. As a result he is also intimately involved in introducing the newest tumor therapy modalities and educating the clinical services on the latest techniques. He is also responsible for the resident and fellowship educational programs.

Dr. Steve Reddy has become a regular and welcome member of the IR team in addition to his responsibilities for the interventional neuroradiology. He is also intimately involved in the teaching program.

Dr. Laura Perry continues to assist us in our daily schedule. Although she is per diem, we consider her a very valued team member. Her approach to her patients, the residents and fellows sets a wonderful example of how IR should be practiced.

John Underhill, PA continue to keep us out of trouble daily by making certain that the communications between patients, referring clinicians and the IR team are always perfect. His fantastic interpersonal skills and depth of medical and IR knowledge assures the best patient care.

Meghan Fashjian, NP although responsible for both Cross-sectional and IR services has done a wonderful job in the integration of our Interventional Oncology services. She manages to smooth the process of patient scheduling.

Regarding our current fellows, we were fortunate to keep **Dr. Madan Reddy** for a second year of fellowship. He has often functioned as a junior staff person and has been a tremendous example and teacher for the residents and fellows. This year we have had a "full house" of fellows with **Drs. Ian Brennan, Gethin Williams, Raja Shaikh and Gaurav Jindal**. The fellowship program is evolving but with the increased volume and organized teaching, should be confident to tackle most IR cases.

We continue to be superbly supported by our administrative assistants **Tara Bun, Maxima Baudissin** and **Ellen Dorrington** who are responsible for keeping the Interventional and Neurointerventional practices running smoothly.

Research Update

Active Prospective Clinical Trials:

1. Use of PercuNav US System Guidance for Improving TIPS.
   PI: Melvin Clouse, MD, Co-investigators: Felipe Collares, MD, Laura Perry, MD, Barry Sacks, MD, Salomao Faintuch, MD
2. Randomized, Double-Blind, Placebo-Controlled, Phase II Trial of Short Course Sorafenib Therapy Prior to Radiofrequency Ablation for Intermediate-sized (3.5 to 7cm) Hepatocellular Cancer.
   Co-PI: Salomao Faintuch, MD, Co-investigator: Muneeb Ahmed, MD
3. Effects of Bariatric Surgery on Patients with Cirrhosis from Nonalcoholic Steatosis (NASH).
   Co-investigator: Salomao Faintuch, MD
4. The Physiology of Human Brown Adipose Tissue.
   Co-investigator: Salomao Faintuch, MD

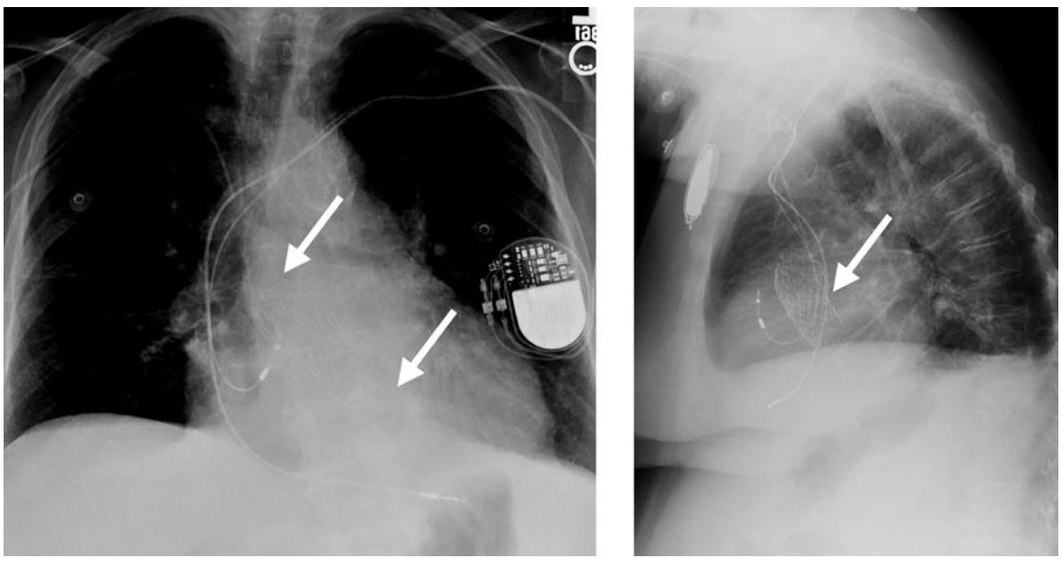
Research Grants:

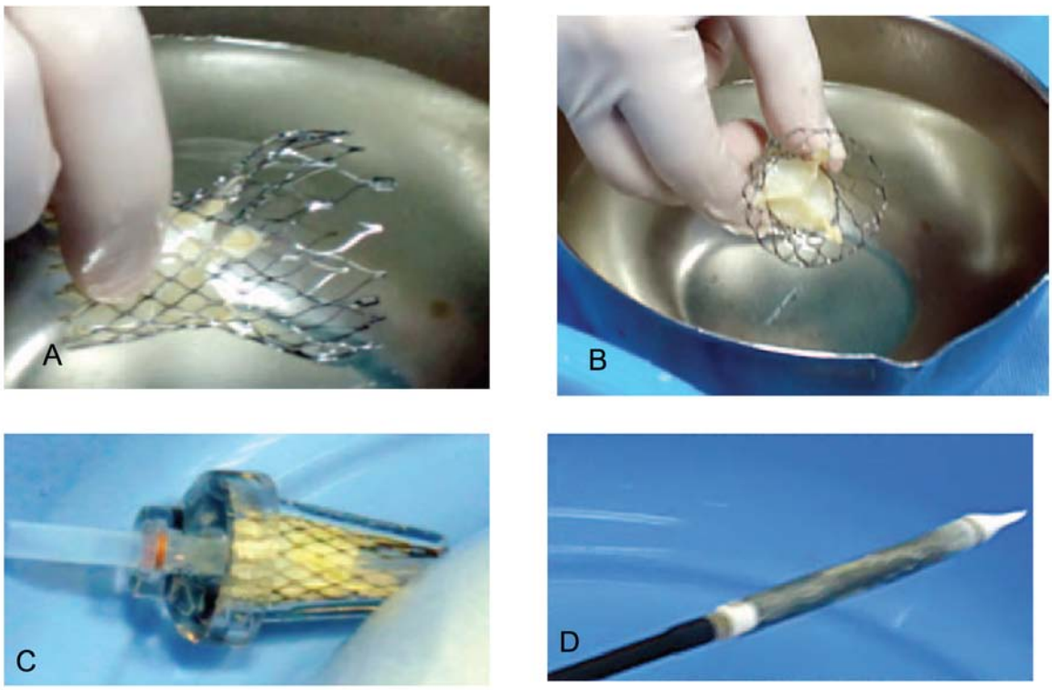
1. Embolization techniques for prostate disease – Salomao Faintuch, MD
   RSNA Research Scholar Grant ($150,000)
   Biosphere Medical Research Grant ($35,000)
2. TINSAL-CV, ROMICAT II & CORE-320 MDCT
   Melvin Clouse, MD

Section Summary Update: Cardiac Imaging, Diana Litmanovich, Director

Our interventional cardiology department is a leading center for a multicenter CoreValve Pivotal trial, (Cardiologist Dr. Popma, PI). The study evaluates transvascular replacement of aortic valve in patients with severe aortic stenosis who are poor surgical candidates. The images below show the appearance of the inserted CoreValve on the chest radiograph as well as an actual picture of the valve. I hope this information might be useful in interpreting those post-procedure examinations.

I will be happy to answer questions related to this topic that might come up .





CoreValve bioprosthesis: A. side view; B. aortic outflow view; C. partially "compressed" prior to mounting on the delivery; D. completely mounted on the delivery system.

Do you know... the Grant Submission Policy for Radiology?

Per BIDMC policy, all grant applications to any agency, sponsor, corporation, foundation, society or any other entity offering grant support for a researcher are due to the Research Administrator seven (7) business days prior to the external grant application deadline. All staff members interested in submitting an application are encouraged to speak to the Vice Chair regarding their applications before the seven-day internal deadline to Research Administration, since the Vice Chair is responsible for signing off on the scientific merit of all applications.

If you have any questions concerning this policy, please contact Dr. Robert Lenkinski at 7-0274.

KUDOS - Please join us in congratulating the following staff for outstanding patient care and service

Support Services

A recent feedback from Dr. Paul Spirn was presented on the wonderful performance of **Deborah Grophear** in the Critical Result Reporting office on her ability to handle this assignment on her own: "Deb Grophear's ability, working alone, to handle the volume of notifications, I think Deb has everything well in hand. She can keep up with the timeline we have drawn for notifications, knows when to ask her supervisor, Peter Cousins, for help, and has good backup for her time away from the hospital. Every time I talk with her I am impressed with her dedication, savvy, and organization"

Breast Imaging

Gina (Natalia) Monteiro always performs her tasks. Gina treats her coworkers with respect and always has a smile on her face. Being able to predict what needs to be done is one of Gina's strength's; running a requisition and stickers for a post procedure when she sees the Radiologist walk by rather than waiting to be told by the technologist. In a busy department, being one step ahead is crucial to keep the workflow moving. Gina always says I can do it, with a smile on her face and a "rock on".

Dr. Kenny Lai

Jonathan B. Kruskal, MD PhD
Chairman, Department of Radiology
Beth Israel Deaconess Medical Center

Department of Radiology
Beth Israel Deaconess Medical Center
330 Brookline Avenue
Boston , MA 02215

Dear Dr. Kruskal,

My name is [redacted] and I am a patient of Dr. Rosemary Duda. I have been followed for the past 10+ years due to a strong family history of breast cancer—I am currently 36.

On March 1st, I had to have a needle aspiration and a core biopsy. I was nervous about the procedure and, of course, about the results. I was treated by Dr. Ken Lai who I found to be one of the most exemplary doctors I have ever encountered. I was anxious when I arrived, and Dr. Lai's compassionate and calm demeanor immediately assuaged my fears. He took the time to sit with me and explain the procedure and then took the utmost care with me during and after the procedure. If I ever have to have this procedure again, I will not be nervous in the least. He was fantastic. The day after the procedure, I had concerns about mild bleeding and he came into the hospital—even though he wasn't scheduled to be in that morning—just to check my bandages himself. I honestly cannot say enough about how well cared for I felt, wholly because of Dr. Lai.

I hope that he is recognized for his gift with patients. I can only assume that I am one of many who have experienced this kindness from him. I wish everyone dealing with the anxiety of a potential cancer diagnosis could be treated by Dr. Lai.

Sincerely,

Name withheld to protect privacy.

KUDOS - to the new parents in our department!

MR tech Lori Nugent and family

It started as a casual birth announcement via e-mail until Diagnostic Imaging Manager Betsy Grady noticed the number of happy events that were too numerous to ignore. Congratulations to all!

Maeve Louise Nugent was born on Mach 8, 2011 at 10:07am, weighing 7 lbs 1 oz. She is happy and healthy and Mom and Dad are tired but joyful. Big brothers Shea and Owen are in love with their new baby sister!

KUDOS - to the new parents in our department!

Dx Tech **Alicia Zaske** and husband Josh welcomed son **Wesley Zaske** on March 2 at 12:24 am, weighing 8lbs 5oz.

Dx Tech **Caryn Jackso**n welcomed daughter **Cecelia** also on March 2, 2011!

Neuro Clinical fellow **Faisal Khosa** and wife Sabeen Tiwana welcomed twins **Mikyle** (left) and **Rania** (right) on March 3, 2011.

Dx tech **Kim Gianino** and husband Greg welcomed **Dylan Joseph Gianino** on January 12th, 2011.

Dx Tech **Chuck Gerbrands** and his son **Ryan Charles** born December 16, 2010.

Dx tech **Lekisha Hamilton** and RIS applications specialist **Bryan James Hamilton**, welcomed the 7lb 10oz. **Isabella Elyse Hamilton** on February 25th, 2011.

Dx Techs **Alyssa and Rob Croce** welcomed baby **Blake** on September 19, 2010.

Editor's Note: We apologise for not being able to inlcude all of the new deliveries in this issue. Depending on reception, we may be able to include the rest in future Radical Views. Thanks again to Besty Grady for alerting us to the additions to the Radiology family.

Publication Call Outs: A new feature to call your attention to recent publications

Dr. Robert Kane, Chief of Abdominal and General US, would like to call your attention to the "Nice interview and discussion of Olga Brook's QA GB paper in AJR." For more information, click on the link:

Click here: http://www.healthimaging.com/index.php?option=com_articles&view=article&id=26670:ajr-qa-identifies-cholecystitis-misdiagnoses-imperative-for-teaching&division=hiit

CLINICAL STUDIES

AJR: QA identifies cholecystitis misdiagnoses, imperative for teaching

Written by Editorial Staff
March 8, 2011
PRINT E-MAIL

FURTHER READING

Organization
- Beth Israel Deaconess Medical Center
- Harvard Medical School

Person
- Olga R. Brook

Portals
- AHRA
- Ultrasound
- Computed Tomography (CT)
- Reading Room

Section
- Clinical Studies

Topic
- sepsis
- quality assurance
- reading room
- Acute cholecystitis
- resident training
- continuing education
- hepatitis
- gangrenous cholecystitis
- severe abdominal pain
- cholecystitis
- wall edema
- gallbladder distention
- ultrasound
- computed tomography
- renal failure
- kidney failure
- acute renal failure

Quality assurance (QA) case databases serve a critical role in training residents and improving practice, enabling radiologists and researchers to identify common diagnostic errors in cases such as acute cholecystitis using root cause analysis, according to a study published in the March issue of the *American Journal of Roentgenology*.

"It is imperative to use root cause analysis of radiologic errors for improvement of work practice and identifying teaching opportunities for residents, fellows, and faculty," explained Olga R. Brook, MD, and co-authors from the department of radiology, Beth Israel Deaconess Medical Center and Harvard Medical School in Boston.

"The purpose of this study was to identify contributing factors in the misdiagnosis of acute cholecystitis that can be used for continuing education," Brook and colleagues continued. With the radiology department submitting cases to the hospital's quality assurance database since August 2004, the system had collected 1,678 abdominal imaging cases as of April 2010, a period over which the department had performed 93,663 abdominal CT and 34,996 abdominal ultrasound examinations of emergency and admitted patients.

The authors searched the database for acute cholecystitis misdiagnoses, classifying errors as overcalls, which overestimated severity, and undercalls, which underestimated severity. Cases were reviewed by a senior attending abdominal imaging radiologist with more than 30 years of experience and an abdominal imaging fellow.

The authors identified 14 misdiagnoses involving a question of acute cholecystitis, 11 of which were undercalled and three of which were overcalled. All overcalled cases were ultrasound exams and six undercalls were interpreted with CT, while five were viewed on ultrasound. All identified cases involving CT were undercalls.

The final diagnoses for overcalled patients included hepatitis, sepsis and chronic cholecystitis. According to the authors, gallbladder wall edema was present but none of these cases portrayed distension of the gallbladder.

For undercalled cases, CT was misleading because cholecystitis was not considered clinically. The authors identified the main contributing factors to misdiagnoses as lack of recognition of wall edema (six patients), lack of recognition of gallbladder distention (four patients), absence of gallbladder wall edema (one patient), lack of conclusion in the report (two patients) and hospitalization in the ICU (two patients).

Overcalled cases resulted in minor complications, while complications in undercalled patients included progression to gangrenous cholecystitis in four patients (one of whom died), gallbladder perforation in two patients, postoperative complications of bile leak in one patient and one case of acute renal failure.

The authors also observed clustering of cases each July, which coincided with incoming classes of residents and fellows, indicating the role of inexperience in misdiagnosis. Still, the authors said that the "finding was unexpected because all studies are read by an attending radiologist. Nevertheless, even the best radiologist will miss in 10 percent of cases."

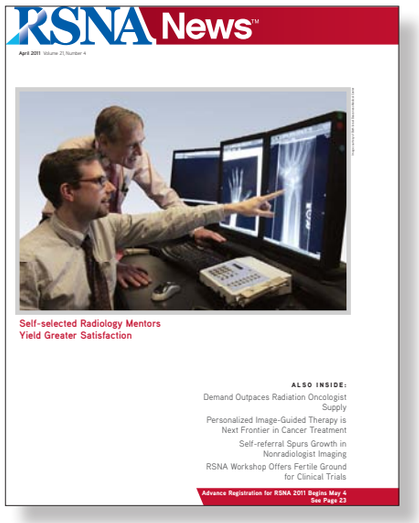
Brook and colleagues cited the small sample size and submission bias to the database as limitations to their analysis.

"In conclusion, acute cholecystitis can be a difficult imaging diagnosis," Brook and co-authors said. "Understanding the diagnostic findings and common pitfalls, such as the importance of gallbladder distention, and knowledge of differential diagnoses of gallbladder wall edema and variability of presentation of acute cholecystitis in intensive care patients may improve diagnostic accuracy."

Last updated on March 8, 2011 at 3:34 pm EST

Check out RSNA News for April, 2011 featuring our resident mentoring program!

Click here: http://www.rsna.org/publications/rsnanews/



2011 Publications from our Faculty Members [New citations in Blue]. *We do a monthly PubMed search for new BIDMC publications and may miss those in which your affiliation is not noted. If we miss your paper, please send the reference to dwolfe@bidmc.harvard.edu to be included in next month's issue. Please note that publications do not always appear in Pubmed in the same month they are acutally published.*

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