

Radical Views...

from the Department of Radiology

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Beth Israel Deaconess
Medical Center



HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL



FROM THE CHIEF
Jonathan B. Kruskal, MD PhD

Dear All:

With the growing emphasis on patient satisfaction and customer service, I am pleased to share the following report by members of our Radiology Action Planning Committee on their participation and appreciation of the recent Cleveland Clinics Patient Satisfaction Summit on Empathy and Innovation. Our Action Planning Committee works diligently to create a culture that supports the patient experience!

Of note ...

Check out the 2015 ISMRM program featuring the efforts of our MRI Division in Toronto, Canada May 30 -June 5, 2015 on pages 6-7.



Aideen Snell, MSW
Manager, Service
Excellence Program

EMPATHY AMPLIFIED

This May six representatives from BIDMC Radiology attended the *Cleveland Clinics Patient Satisfaction Summit: Empathy and Innovation*. In this ever changing and competitive world of healthcare, how are we going to stand out from all the rest? This year's theme was "Empathy Amplified: Hear it. Speak it. Feel it," which reflects an emphasis on relationships, communication and listening across the whole spectrum of healthcare encounters.

In Radiology, we have made service excellence and patient satisfaction a priority and we are constantly looking to learn more about what we are doing right and what we can improve on. The Patient Experience Summit is the largest independent summit in the world exclusively focused on improving the patient experience. We had the opportunity to learn from leaders in the industry, hear about the great work being done and develop goals to improve the patient experience at BIDMC. The following details what we learned and hope to apply:

As our doctors, nurses, technologists go through their training programs, they are no longer taught about compassion and empathy, it just doesn't happen anymore. This younger generation excels in technology and electronic documentation, but they're not good with connecting with others. This also includes their peers – because we're living in a digital age of texting and emails. Compassion and empathy are skills that need to be taught. Dr. Freda Remzi, MD, Chairman Department of Colorectal Surgery, Cleveland Clinic tells every one of his students, *"Being a doctor is about loving people - if you don't love people, if you don't love your job... You should quit now!"* He also says, "be human, don't be afraid to touch!" Eileen Rockefeller spoke about the Mind Body Connection and also recommended Norman Cousins' book "Anatomy of an Illness". She said "Love and Compassion are essential ingredients for healing". We need to teach and train. Our goals cannot be strictly to increase our patient satisfaction scores but rather, *what can we do better?* Before addressing amenities for patients (waiting room environments, parking, esthetics) be sure communication and teamwork has been addressed. Focus on increasing value added, quality, safety and communication and you will get an increase in satisfaction.

- Aideen

empathy innovation

(((empathy amplified.)))
hear it. speak it. feel it.

- FACT:** It takes 56 seconds to make a connection with a patient
- FACT:** Every patient is either a brother, father, mother, son, daughter or friend
- FACT:** After you meet with the patient you should be able to tell one thing about them that has nothing to do with why they are here
- FACT:** Showing a patient courtesy and respect does not require any additional tasks, it's just about your approach in building the relationship
- FACT:** When people get anxious they don't remember everything and often can't think straight. You may need to repeat yourself for the patient to hear you or remember what you're saying
- FACT:** Communication across disciplines and coordination = patients feeling safe



Usama Abraham - Supervisor, CT

As much as I appreciate the variety of topics around empathy + innovation, from hands-on strategies workshops, innovation strategies, patient engagement, patient stories etc., I was intrigued and moved the most by the hospital CEO panel discussion that was moderated quite well by Alexandra

Drane, with Dr. Vivian Lee (Chief Executive Officer, University of Utah Health Care), Dr. Glenn Steele, Jr. (Chief Executive Officer, Geisinger Health System) and Dr. Delos Toby Cosgrove (Chief Executive Officer and President of Cleveland Clinic). Dr. Cosgrove spoke about his own patient experience when he was invited in 2006 to Harvard Business School to discuss a case study on Cleveland Clinic. He said 'the first session was positive'; at the second session, a student

raised her hand. 'Dr. Cosgrove, my father needed mitral valve surgery. We knew about Cleveland Clinic and the excellent results you have but we decided not to go there because we heard that you had no empathy. We went to another hospital instead, even though it wasn't as highly ranked as yours.' The student then paused and looked me right in the eyes. 'Dr. Cosgrove, do you teach empathy at Cleveland Clinic?'

Dr. Cosgrove went on to say that from that Harvard student question the Cleveland Clinic caregivers were taught empathy for patients, and the seed for a revolution in thinking leading to the concept and practice of "Patient First" was planted. Dr. Cosgrove also mentioned his Saudi Arabian inauguration of a new hospital. He said the King and prince were there, when the president of the hospital said 'this hospital is dedicated to the body, spirit and soul of the patient'. He looked over and saw that the both king and prince were weeping! Many members of the audience are crying as well and Dr. Cosgrove thought, "We're really missing something. We need to tread the soul and spirit of the patient."



Ana Cordero - Clinical instructor/Educational coordinator, Diagnostic Radiology

Patient Experience Summit: Transforming Healthcare through Empathy and Innovation; 2,200 attendees, 37 countries represented!

Patient centered care is really a global initiative. In order to stay competitive, we must improve and provide quality care to our patients. We must understand that patients have choices and we heard real life stories about how patients choose where they get their care depending on the "what mood the staff is on a particular day".

We must consider patient experience through the eyes of the patients we serve. Emphasis should be made in working together and demonstrating teamwork through good communication across the enterprise (Medical Center). Empathy starts at the top, should be part of our new employee orientation, addressed in performance reviews and should be an ongoing emphasis when training students/interns.

Dr. Levin stated that "Empathy is the core of healthcare and leads directly to achieving the Triple Aim: better health, better care and lower cost". Empathy starts with you, be kind to yourself first and in turn, you will be kind to your co-workers and ultimately, your patients. Empathy starts with a smile!



Peter Cousins - Manager, Radiology Support Services

The foundation to meaningful patient experience improvement is "Patient experience plus patient engagement equals meaningfully engaged consumer. That's because patients, before they are patients, are consumers"

During the Culture of Silence presentation, Ronald Wyatt, MD explained empathy as "Do you feel me?"

"Do you really, really, really feel me? If so that is empathy amplified. What is healthcare without empathy – and what does empathy bring to the table? Empathy is a building block to morality, cuts against self-interest, promotes heroism, fights against inequality and inequity. Empathy is good for healthcare."

"Love your patients, love your staff, love each other, and love your community. There is no quality without love, no empathy without love. We can bend that moral arc toward love for our patients, love for each other and do what we're called to do – empathy amplified."

The Cleveland Clinics Patient Experience Summit: Empathy & Innovation (cont'd)



Juanita Cook - Supervisor, Ultrasound

We need to shift our thinking from “What is the matter WITH you?” to “What matters TO you?”. This is a phrase I heard that resonated with me.

All healthcare is provided through relationships and what matters to each individual is at the core of the relationship. Small personal connections make a big difference. Cleveland Clinics Senior Director of Ambulatory Nursing, Susan Paschke, stated “The important relationships are not just with patients, the entire care team relationship counts.” Studies of empathy have clearly demonstrated that it leads to a better experience and outcomes for both patients and caregivers.

It is a privilege for us to take care of our patients and our community, and to know that they have entrusted us with their care. They have many choices of where to receive their care and there are many facilities that deliver the same technology, the same diagnosis, and the same procedures, and so it is the experience they have with us that really matters. Emphasis should be placed on dissolving the silos, and by working well with other departments to better serve our patients. Many of us may never have been a patient before. We may need to help each other learn how to connect with our patients, and how to create relationships between each other that allow our patients to have confidence in us. In order to allow patients to feel safe, they need to know we are working together and have coordinated their care for the best outcome. Healthcare is a team sport in which each of us will take a turn to be a player, a coach, and a referee. We are all Patient Engagement Champions!

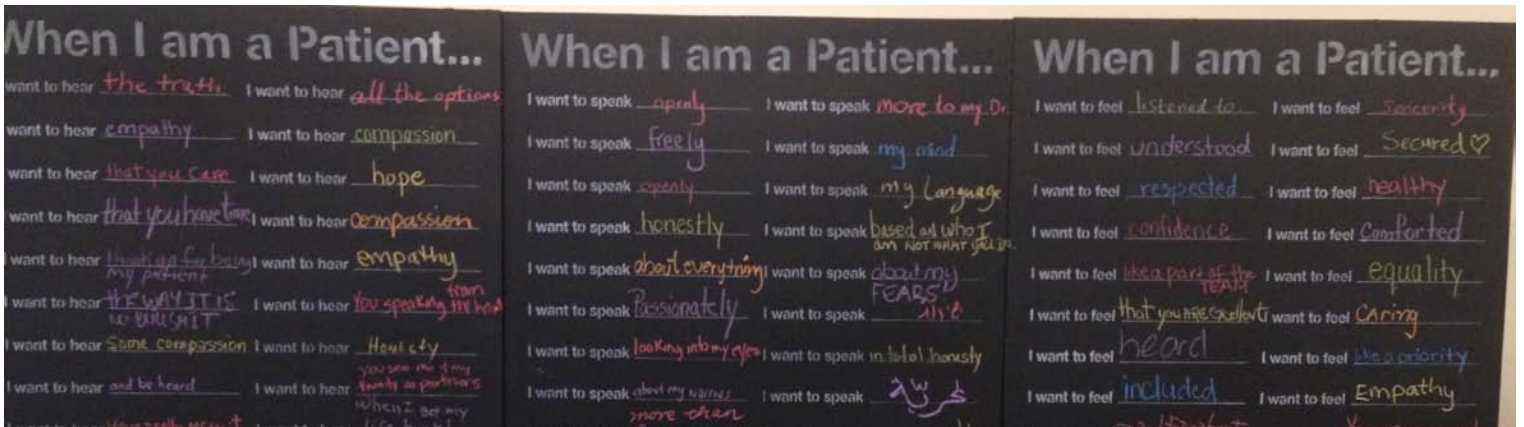


Shuang Qi (Jim) Zheng - Supervisor, Clinical MRI

The Affordable Care Act has shown a spotlight on optimizing patient outcomes. Regardless of which metrics better outcomes are measured on, be it reducing readmission rates or minimizing death rates, the marketplace is increasingly becoming focused on the ‘consumer’ and driven by value, and improving value for patients.

“Better outcomes, better costs.” Dr. Thomas Lee, MD., Chief Medical Officer for Press Ganey, showed us how research in the patient experience over recent years has demonstrated that engagement with patients in their healthcare is crucial for best outcomes. “Empathic care is not charity, it is strategy.”

The new healthcare marketplace is being driving by doing the right things. “Good health is more than being not dead.” Dr. Lee highlighted this shift by speaking on the emergence of the word ‘suffering’ in 2015, explaining that only two years ago, it was a word the New England Journal of Medicine refused to publish. Our own Dr. Kenneth Sands, MD, Chief Quality Officer at BIDMC, says it is a real and pressing issue. “Whether from long waits, inadequate explanations or feeling lost in the shuffle it is as important as injuries, like medication errors or falls, or infections acquired in a hospital.” Dr. Lee adds that “reducing suffering is one of the most important challenges in healthcare.” CEOs from large and prominent health care organizations agree that the patient experience is critical to survival: Value has replaced volume.

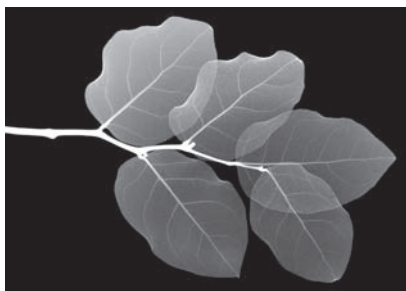


Radiology Calendar JUNE 2015

Check for the most up-to-date schedule at: <https://apps.bidmc.org/departments/radiology/residency/conferences/displayMonth.asp>

Mon	Tues	Wed	Thurs	Fri
Weekly Mon Section Meetings: 3:00-4:00 ED section meeting [ED annex, WCC]		Weekly Wed Section Meetings: 11:00-12:00 MSK clinical conference 12:00-1:00 CardioThoracic, GI/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	Friday Grand Rounds: 12 noon Sherman Auditorium, East Campus (unless stated otherwise)
1 7:30 - 8:15 Diffusion MRI (Martin Smith) 8:15 - 9:00 Imaging of the kidney, ureter, bladder, and urethra (Girish Tyagi)	2 7:30 - 8:15 Bladder - trauma / benign and malignant disease (Darren Brennan) 8:15 - 9:00 Renal cases (Darren Brennan)	3 7:30 - 8:15 Ultrasound cases (Colin Mcardle) 8:15 - 9:00 Prostate MRI (Martin Smith)	4 7:30 - 8:15 Metastatic spread of gynecologic malignancies (Olga Brook) 8:15 - 9:00 MRU (Maryellen Sun)	5 12:00-1:00 pm Grand Rounds: Fourth Year QA (Drs. Katherine Troy, Javier Perez- Rodriguez, Ann Leylek, Edward Ahn, Rashmi Jayadevan, and Mark Masciocchi)
8 7:30 - 9:00 Chest (TBD) 12:00-1:00 MRI Meeting [Ansin 2]	9 7:30 - 9:00 Chest (TBD) 10:30-11:30 NMMI meeting [GZ-103]	10 7:30 - 9:00 Physics (TBD) 7:15-8:00 US meeting [WCC-304A]	11 7:30 - 8:15 Radioembolization (Y90) (Ammar Sarwar) 8:15 - 9:00 Endovascular management of DVT/PE (Salomao Faintuch)	12
15 7:30 - 9:00 MSK (TBD)	16 7:30 - 9:00 MSK (TBD) 8:00-9:00 IR Meeting [West Recovery]	17 7:30 - 9:00 MSK (TBD)	18 7:30 - 9:00 MSK (TBD) 6:00 PM Fleischner Graduation	19 7:30-8:15 Career Advice (Rich Sharpe) 12:00-1:00 pm Fleischner Lecture: "Is the Art of Medicine Dead in the Era of Population Health Management?" (James A. Brink, MGH)
22 7:30 - 9:00 Chest -TBD (Karen Song)	23 7:30 - 8:15 Neuro (David Hackney) 8:15 - 9:00 Neuro Cases (Kim Smith) 10:30-11:30 NMMI meeting [GZ-103]	24 7:30 - 9:00 Physics (TBD)	25 7:30 - 9:00 Last conference of the year - PARTY! (TBD)	26
29 7:30 - 9:00 ORIENTATION WEEK (TBD)	30			

Risa & Felix
22nd Annual **Fleischner**
Graduation Dinner



Guest of Honor:

James A. Brink, MD

Radiologist-in-Chief, Massachusetts General Hospital
Thursday, June 18th, 2015

Congratulations Radiology Residents & Fellows Class of 2015

This year's graduation evening will be held on Thursday, June 18th, at the Harvard Club, 374 Commonwealth Avenue, 6 pm cocktail hour and 7:15 pm dinner.

The Fleischner Lecture presented by Dr. James A. Brink will be held on Friday, June 19th, 12-1 pm, in the Sherman Auditorium.

JUNE GRAND ROUNDS - Fleischner Lecture



Friday, June 19th, 2015
12 noon - 1:00 PM • Sherman Auditorium

“Is the Art of Medicine Dead in the Era of Population Health Management?”

James A. Brink, MD - Radiologist-in-Chief, Massachusetts General Hospital; Professor of Radiology, HMS

We welcome Dr. Brink as this year's Fleischner Lecturer. Dr. Brink earned his MD from Indiana University School of Medicine, Indianapolis and completed his radiology residency and abdominal imaging fellowship training at MGH. After seven years at the Mallinckrodt Institute of Radiology in St. Louis, MO where he served as Co-Director of Body CT, he moved to New Haven, CT in 1997 to serve as Vice-Chairman of Clinical Affairs, Associate Chief (and then Chief) of Diagnostic Imaging, Chief of Abdominal Imaging, and Chief of Radiology at Yale University School of Medicine. In 2013, he returned to Boston as Chief of Radiology at MGH where he continues to draw on his leadership skills and experience as a member of the Radiology Executive Committee at HMS as well as numerous other positions at MGH such as the Chief's Council, Compliance Committee, Managed Care and Contracting Committee, and Steering Committee on Episodic Care. Nationally, he currently serves as the Vice-Chair of the Board of Chancellors and as a member of the Strategic Planning and Program Assessment Committee of the American College of Radiology. In 2014, he also presented, “Radiation Dose Management, Quality Management and Population Health, Over-reading Outside Examinations: Financial Performance” at the 100th Scientific Assembly of the Radiological Society of North America (RSNA), Chicago, IL and he comes to BIDMC to further share his well-informed point of view of current health practices in Radiology.

MAY GRAND ROUNDS Follow-Up: Joao A.C. Lima, MD, MBA at the 8th Annual Sven Paulin Lecture



On Friday, May 1st, Joao A.C. Lima, MD, MBA, Professor of Medicine, Radiology and Epidemiology at Johns Hopkins University School of Medicine delivered the 8th Annual Sven Paulin Lecture in the Sherman Auditorium: **Imaging Cardiovascular Fibrosis: Lessons from MESA** and we were honored by Dr. Paulin's family members, his wife Birgit, daughter Helena and son Magnus who were able to attend. The Annual Sven Paulin Lectureship in Cardiovascular Imaging is a combined Radiology-Cardiology Grand Rounds initiated in 2006 and was sponsored this year by Cardiology.



2015 Guide to BIDMC Scientific Sessions, Courses & Exhibits

International Society for Magnetic Resonance in Medicine (ISMRM)
23rd Annual Meeting & Exhibition



ISMRM

ONE
COMMUNITY
FOR CLINICIANS
AND SCIENTISTS

30 May - 05 June, 2015
Toronto, Ontario, Canada

Sunday 31 May		E- POSTERS		Exhibition Hall
16:00 Rm 701B	WEEKEND EDUCATIONAL COURSE: <i>Body MRI: Optimize Your Clinical Practice</i> MRU & Bladder CA Staging - Maryellen Sun	3356	Whole Brain Inhomogeneous MT Using an lhMT Prepared 3D GRE Sequence at 1.5T. Olivier M. Girard, Arnaud Le Troter, Gopal Varma , Valentin H. Prevost, Maxime Guye, Jean-Philippe Ranjeva, David C. Alsop , Guillaume Duhamel.	MON 01 June 17:30-18:30 Computer 25
Tuesday 02 June		3357	Extracting a Robust Inhomogeneous Magnetization Transfer (lhMT) Rate Parameter, lhMT-Rex. Gopal Varma , Olivier M. Girard, Valentin Prévost, Guillaume Duhamel, David C. Alsop .	MON 01 June 17:30-18:30 Computer 26
10:00 Rm 718A	WEEKDAY EDUCATIONAL COURSE: <i>MRI in the Emergency Room</i> Rapid MRI Protocols & Acquisitions for Emergency Patients. Martin P. Smith	3452	Inhomogeneous Magnetization Transfer: Developmental Changes During Childhood. Alyssa Mah, R Marc Lebel, David C. Alsop , Gopal Varma , Catherine Lebel.	TUES 02 June 10:00-11:00 Computer 25
0539 10:00 [Oral] Power Pitch Theatre + 0274 Plasma 11, Exhibition Hall	ASL METHODS: NEURO: Dynamic 3D ASL in 20 Seconds Per Frame with Model-Based Image Reconstruction. Li Zhao* , Samuel Fielden, Xue Feng, Max Wintermark, John Mugler, Josef Pfeuffer, Craig Meyer. <i>*summa cum laude</i>	4379	Are There Differences Between Macrocyclic Gadolinium Contrast Agents for Brain Tumor Imaging? Results of a Multicenter Intra-Individual Crossover Comparison of Gadobutrol with Gadoteridol (The TRUTH Study). Martin P. Smith , Kenneth R. Maravilla, Stefano Bastianello, Eva Buelmann, Toshinori Hirai, Tiziano Frattini, Cesare Colosimo, Gianpaolo Pirovano.	WED 03 June 17:00-18:00 Computer 29
Wednesday 03 June		4534	Motion Correction of Free Breathing Quantitative Myocardial T2 Mapping: Impact on Reproducibility and Spatial Variability. Sébastien Roujol , Tamer A. Basha , Sebastian Weingärtner, Mehmet Akcakaya, Sophie Berg, Warren Manning , Reza Nezafat.	THURS 04 June 11:30-12:30 Computer 16
0539 11:24 Rm 701B	ASL METHODS: FROM THE NECK DOWN Feasibility and Repeatability of Human Brown Adipose Tissue Volume and Perfusion Activity Using MRI. Weiyang Dai , Lauren S. Weiner, David C. Alsop , Aaron M. Cypess..	4591	Comparison of FDG-PET and Hyperpolarized Pyruvate in Assessing Response to an Isoform-Specific PI3K Inhibitor in Breast Cancer. Aaron K. Grant , Gopal Varma , Hai Hu, Xiaoen Wang , Ashish Juvekar, Soumya Ullas, GerburgWulf.	THURS 04 June 13:30-14:30 Computer 1
13:30-15:30 Rm 801 A/B	EDUCATIONAL COURSE: <i>Spine</i> Moderators: David B. Hackney , Roland R. Lee.	4608	Characterization of Glycolytic Activity and Perfusion in a Renal Cell Carcinoma Model During Sunitinib Treatment and Resistance with Hyperpolarized 13C MRI. Leo L. Tsai , Xiaoen Wang , Gopal Varma , David Alsop , Aaron K. Grant .	THURS 04 June 13:30-14:30 Computer 18
Thursday 04 June				
10:30-12:30 Rm 714 A/B	SCIENTIFIC SESSION: Perfusion & Permeability: Validation Studies Moderators: Weiyang Dai , Ronnie Wirestam.			
Friday 05 June				
08:00-10:00 Rm 701B	MAGNETIZATION TRANSFER: Moderator: David C. Alsop			
0993 8:00	Application of a Dipolar Model to Inhomogeneous Magnetization Transfer (lhMT). Gopal Varma* , Olivier M. Girard, Valentin Prévost, Aaron K. Grant , Guillaume Duhamel, David C. Alsop . <i>*summa cum laude</i>			

POWER PITCH POSTERS

Power Pitch Theatre, Exhibition Hall

0184	Black Blood Late Gadolinium Enhancement (BB-LGE) Using a Joint T2 Magnetization Preparation and Inversion Preparation. Tamer Basha* , Sébastien Roujol , Craig V. Kissinger, Beth Goddu, Warren J. Manning , Reza Nezafat. <i>*magna cum laude</i>	MON 01 June 16:30-17:30 Plasma 11
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TRADITIONAL POSTERS		Exhibition Hall
1112	Investigating PH and Other Effects of a Proton Pump Inhibitor (PPI) in Cancer Models with ³¹ P Magnetic Resonance. Gopal Varma, Xiaoen Wang, Han Xie, Gerburg Wulf, Pankaj Seth, David C. Alsop, Aaron K. Grant, Vikas P. Sukhatme.	MON 01 June 10:45-12:45
1223	MR Diffusion Is Sensitive to Mechanical Loading in Human Intervertebral Disks. Ron N. Alkalay, Carl-Fredrik Westin, Dominik Meier, David B. Hackney.	MON 01 June 10:45-12:45
2233	Effect of Antiepileptic Treatment on Hippocampal Activity in Alzheimer's Disease measured by ASL. Weiyang Dai, David Alsop, Daniel Z. Press.	WED 03 June 13:30-15:30
2325	Arterial Spin Labeling Improvement by Incorporating Local Similarity with Anatomic Images. Li Zhao, Weiyang Dai, David Alsop.	WED 03 June 13:30-15:30
2333	The Many Advantages of Arterial Spin Labeling with Long Label Duration. R. Marc Lebel, Ajit Shankaranarayanan, Eric E. Smith, Cheryl McCreary, Richard Frayne, Weiyang Dai, David C. Alsop.	WED 03 June 13:30-15:30
2580	A Novel Framework for Unified Analysis of In-Vivo and Ex-Vivo Cardiac Data Using an In-vivo MRI-Derived 3D Printed Model: Application to Cardiac MRI. Sébastien Roujol, Cory Tschabrunn, Tamer Basha, Kraig V. Kissinger, Warren J. Manning, Mark E. Josephson, Elad Anter, Reza Nezafat.	THUR 04 June 10:30-12:30
2584	Comparison of High Resolution LGE and High Resolution Electro-Anatomical Mapping for Imaging of the Ventricular Arrhythmia Substrate in a Swine Model of Ventricular Tachycardia. Sébastien Roujol, Tamer Basha, Cory Tschabrunn, Kraig V. Kissinger, Warren J. Manning, Mark E. Josephson, Elad Anter, Reza Nezafat.	THUR 04 June 10:30-12:30
2587	Quantitative Myocardial T1 and T2 Mapping in a Swine Model of Ventricular Tachycardia. Sébastien Roujol, Tamer Basha, Cory Tschabrunn, Kraig V. Kissinger, Warren J. Manning, Mark E. Josephson, Elad Anter, Reza Nezafat.	THUR 04 June 10:30-12:30
2598	Combination of T2-Magnetization Preparation and Slice Interleaved Inversion Recovery for Improved Motion Correction of Myocardial Extracellular Volume Mapping Using Spoiled Gradient Echo Imaging. Sébastien Roujol, Tamer Basha, Jihye Jang, Kraig V. Kissinger, Beth Goddu, Sophie Berg, Warren J. Manning, Reza Nezafat.	THUR 04 June 10:30-12:30
2600	Improved Accuracy of T1 Mapping Reconstruction Using a Novel Bloch Equation-Based Fitting with Graphic Processing Unit Implementation. Sébastien Roujol*, Tamer A. Basha, Jihye Jang, Sophie Berg, Warren J. Manning, Reza Nezafat. *magna cum laude	THUR 04 June 10:30-12:30
2646	Utility of Multi-Slice T1 Mapping by Using Slice Interleaved T1 (STONE) Sequence for the Detection of Diffuse Myocardial Fibrosis in Patients with Hypertrophic Cardiomyopathy. Shingo Kato, Sébastien Roujol, Jihye Jang, Tamer Basha, Sophie Berg, Kraig Kissinger, Beth Goddu, Evan Appelbaum, Martin Maron, Warren J. Manning, Reza Nezafat.	THUR 04 June 10:30-12:30

Arterial Spin Labeling Improvement by Incorporating Local Similarity with Anatomic Images

Li Zhao, Weiyang Dai and David C. Alsop
Radiology, Beth Israel Deaconess Medical Center & Harvard Medical School, Boston, MA, United States

Purpose:

- Arterial spin labeling (ASL)
- Same perfusion imaging than contrast agent [1]
- Low SNR and spatial resolution [2]
- High quality anatomic images routine (e.g. T1w and T2w)

Therefore, we exploit the spatial information of anatomic images to:

- Enhance the resolution of ASL
- Improve the SNR of ASL
- Preserve the quantitative perfusion values in larger regions

Method:

- Sharpen ASL by Local Similarity with Anatomic Image (SALSAS)
- Improve ASL images by reducing the discontinuity with anatomic images.

Frequency space Addition (FA) [3]

- Frequency space Multiplication (FM) [4]
- Wavelet-based fusion (Wavelet) [5]
- Non Subsampled Contourlet Transform (NSCT) [6]
- Intensity-Hue-Saturation-based methods (IHS) [7]

Fig. 1 The effect of different anatomic image enhancement strategies on ASL. While the original ASL image is blurry, the enhanced images using SALSAS (Case 2) reproduce the original ASL signal. This preserves quantitative perfusion in larger regions.

Discussion:

- Fig. 1 shows low frequency parts of enhanced ASL are similar to original ASL.
- Fig. 2 shows that above methods
- Improve the spatial resolution, FM and SALSAS provided preferable results.
- Show better visual consistency than conventional IHS.
- Maintain the quantification of ASL, yet includes the details of anatomic images, even when the anatomic images have different contrast (e.g. case 3).
- Improve ASL, if anatomic images have similar contrast (e.g. T1w & T2w).
- Results of FA, wavelet, NSCT and IHS contain fat and eye structures around brain. This could help localize lesions, but also confuses the contrast of ASL.

References:

1. Zhou et al. *MRI*. 2001; 14: 206-216.
2. Zhou et al. *MRI*. 2001; 14: 206-216.
3. Papanicolaou et al. *IEEE Trans Med Imaging*. 2001; 20: 1029-1031.
4. Durrleman et al. *Neur Med Biol*. 1998; 40: 442-447.
5. Cohen et al. *IEEE Trans Med Imaging*. 2001; 20: 1177-1186.
6. Cohen et al. *IEEE Trans Med Imaging*. 2001; 20: 1177-1186.
7. Cohen et al. *IEEE Trans Med Imaging*. 2001; 20: 1177-1186.

Investigating pH and other Effects of a PPI and Amiloride in Cancer Models with ³¹P MRS

Gopal Varma¹, Xiaoen Wang¹, Han Xie¹, Gerburg Wulf¹, Pankaj Seth¹, David C. Alsop¹, Aaron K. Grant¹, and Vikas P. Sukhatme¹
¹Radiology, Division of MR Research, ²Department of Medicine, and ³Division of Hematology and Oncology, Department of Medicine, Beth Israel Deaconess Medical Center, Harvard Medical School

pH gradient in tumor cells

- Upregulated aerobic glycolysis in cells (Warburg effect) results in excess H⁺ ions [1]
- Acidic extracellular environment promotes local invasion and metastasis [2]
- Neutral intracellular pH maintained via mechanisms that acidify extracellular space
- Drugs that neutralize extracellular pH can inhibit tumor growth and proliferation

Action of Proton Pump Inhibitor (PPI) and Amiloride

- Interrupts systems pushing protons/lactate into extracellular space (Fig. 1)
- Separate use in cancer treatment involves decrease in intracellular pH (pHi)
- ³¹P spectroscopy serves as a probe of their combined action on tumor metabolism

Cancer model results:

Fig. 3 Plots highlighting change in ³¹P spectra following injection (even split of n mice)

Measurable effect of PPI + Amiloride in tumors using ³¹P MRS

- Significant difference between change in pHi pre/post injection with drug combo versus vehicle ($p < 0.01$)
- Drug combination decreased pHi across both cancer models (Fig. 3); suggests efficacy in multiple cancers
- Significant difference in change in ratio of Pi to γ-ATP with drug combo ($p = 0.05$); ratio(s) might serve as probe [6]
- Measured changes observed in 1st scan post injection; greater SNR required to improved temporal/spatial resolution

References:

1. Gatenby et al. *Nature Reviews Cancer* (2009) 9: 684-696.
2. Gatenby et al. *Nature Reviews Cancer* (2009) 9: 684-696.
3. Tschabrunn et al. *Cancer Res* (2010) 70: 264-272.
4. Hata et al. *MRI* (2014) 27: 150-162.
5. Hossain et al. *Magn Reson Med* (2011) 65: 141-152.
6. Ernault et al. *J Magn Reson Imaging* (2011) 34: 601-609.

Effect of Antiepileptic Treatment on Hippocampal Activity in Alzheimer's Disease measured by ASL

Weiyang Dai¹, David C. Alsop¹, Daniel Z. Press¹
¹Radiology, Neurology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA

INTRODUCTION

- Increased hippocampal perfusion has been reported in early Alzheimer's disease AD [1,2,3].
- Animal studies have shown evidence of epileptic activity that may play a more central role in the pathophysiology of AD.
- Epileptic activity directly damages the hippocampus via hypoxia and ischemia [4].
- Ischemia in turn can lead to increased amyloid deposition [5].
- We hypothesize that similar epileptic activity may occur in vulnerable brain structures of humans with AD.
- Suppression of epileptiform activity could improve cognitive deficits.

OBJECTIVES

- An antiepileptic drug, Levetiracetam, leads to decreased rCBF in the hippocampus if increased hippocampal perfusion in AD is caused by epileptiform activity.

METHODS

Subject & ASL measurement

- Nine patients with probable AD were imaged on a GE 3 Tesla scanner.
- Each subject received 3 study drug regimens at 3 different days.
- Placebo
- Low dose levetiracetam (2.5 mg/kg)
- High dose levetiracetam (7.5 mg/kg)

Two functional measurements

- resting-state perfusion using rCBF(r)
- Resting state BOLD

Image analysis

- ASL Perfusion measurement
- Perfusion difference image averaged over time series.
- Quantified using perfusion difference image and reference image
- Normalization of the perfusion map from 3 drug states to a standard template
- Voxel-based statistical analysis using SPM8 across 3 drug states
- Using within-subject ANOVA
- voxel-level threshold 0.01
- cluster-level corrected threshold 0.05
- Resting state ASL and BOLD data analysis are still in progress.

RESULTS

- Perfusion decreased significantly in the anterior cingulate gyrus extending to precuneus and occipital cortex for low dose/high dose levetiracetam compared to placebo (Fig. 1a,b).
- Perfusion decreased in right hippocampus, putamen, insular, middle and superior temporal cortex for low dose levetiracetam compared to high dose levetiracetam (Fig. 2a).
- Perfusion increased in both hippocampi, caudate, putamen, amygdala and middle temporal regions for low dose levetiracetam compared to placebo (Fig. 2a).
- Perfusion increase in both hippocampi, caudate, putamen, amygdala, anterior cingulate for high dose levetiracetam compared to placebo (Fig. 2b).
- Perfusion changes have been observed in the hippocampus with levetiracetam but with a different sign than anticipated.
- These findings suggest a more complex behavior of drug and epileptic activity effects in AD.

Fig. 1 Significant Perfusion change of (a) Placebo - 2.5 mg/kg levetiracetam. (b) Placebo - 7.5 mg/kg levetiracetam. (c) 2.5 mg/kg - 7.5 mg/kg levetiracetam overlaid on an anatomical image

Fig. 2 Significant Perfusion change of (a) 2.5 mg/kg levetiracetam - Placebo overlaid on an anatomical image. (b) 7.5 mg/kg levetiracetam - Placebo overlaid on an anatomical image

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DEPARTMENTAL NEWS: LEAN Improvement project on WCC-3



CT and Ultrasound find new space to properly store supplies

Many thanks to all who participated in the LEAN improvement project on WCC3! This team effort in conjunction with our partners in distribution, resulted in a new and improved supply room located across from the new RCU.

Spearheaded by Ann Marie Cathcart, Tim Parritt, Usama Abraham, Juanita Cook, Marybeth Malolepszys, Bernie Kennedy & Lekisha Hamilton, this cross sectional team spent many hours establishing hundreds of product par levels, streamlining the ordering processes and mapping out the items for the new supply room.

Well done, all!
- Bridget O'Bryan



Where's Waldo???



New and Improved!

KUDOS - Each month, we share the positive feedback we receive about staff members and ask you to join us in congratulating them; as always, we are especially proud to acknowledge an unprecedented constellation of staff for providing outstanding care and service!

DX



Dx staff members (L to R) **Vicki Pappas**, **Michael Dresser**, and **Jeannette Aitelhadj** volunteered and scheduled extra time for Ebola training, as well as assisted in training others.

(L to R) **Mary Elizabeth Monroy** and **Lekisha Hamilton** went above and beyond to cover an LOA during a difficult time (student graduations) and also helped to coordinate a graduation celebration. Lekisha also covered for Kevin's vacation ensuring daily staffing coverage



Dan Bradley assisted coordinating a complicated LP, and he provided clear communication to staff involved which helped the process to run as smooth as possible.



On her own **Beth Howard** documented an audit of Transport Communication sheets for Risk for Fall. She's communicated other issues to me that otherwise I would be unaware. Beth also has assisted Radiology Nursing with holding area coverage.



Dave Delpeche has assisted his supervisor with shift coverage and communication of coverage needs with other tech assistants.

CT



April 24th was an extremely busy night with staff off and others out sick. During the hours of 7p to midnight, **Tanya Martinez** scanned 24 cases without a complaint; she took it all in stride and did a great job taking care of the patients. Tanya consistently steps up to the plate.

US



Julie Robens received a very positive expression of appreciation from a patient via the Patient Feedback kiosk.



A patient called regarding their experience with **Debbie Barnhill**. They stated that Debbie maintains a high standard of care while providing a sweet and supportive environment for the patient. She is a valuable member of our staff.



As you may recall, the Safe Patient Handling Team recently sent out a survey asking all staff to identify employees who encourage use of safe patient handling equipment. **Juanita Cook** was identified by staff in Radiology as someone who champions the Safe Patient Handling program. This is especially meaningful and effective since she is a leader.



Sheila Nadeau continues to brighten the department with holiday decorations. Her most impressive efforts are during the December holiday periods but patients also comment on the spring or fall flowers and shamrocks that she use to decorates our door.

IA/PACS



Bessie Gray handled a situation with BID-Plymouth where images were needed on an urgent case to be sent from BID-Plymouth to our ArmourCar device. Bessie's immediate inclination was to use the Lifelimage service, which was a viable option to be used if necessary. She reached out immediately to one of our PACS members for any other suggestions.



Phil Purvis was able to assist with transferring the images immediately for this rush request. Both Bessie and Phil exemplify great patient care and support of our network of hospitals.

MORE KUDOS - Each month, we share the positive feedback we receive about staff members and ask you to join us in congratulating them; as always, we are especially proud to acknowledge an unprecedented constellation of staff for providing outstanding care and service!

NURSING & SUPPORT SERVICES



Diana Daley's assessment of LP and Myelogram patients ensures they are prepared for their exam. These exams were moved out of INR to the Diagnostic department and Diana provided guidance and assistance in the development of a guideline and the booking process. She also assisted in the development of the Neuro section in IRIS for booking.



Kassy Depina not only has been quick to learn the booking workflow for LP and Myelograms, but she brings potential issues to our attention. By doing so she has prevented delays or misbooked situations. She is always thorough. Kassy also organizes forms and paperwork for IR procedures, ensuring that the most up-to-date form is available.

Residency News: Never too late to Party!

Although slightly delayed, the residents got together for their annual Holiday Party last week! We were able to reserve a small space at Audubon Circle Bar to enjoy food, drinks and good conversation. We had a great turnout and it was a great way to catch up with everyone outside of work. We also got to wish some of the third years luck on their upcoming board exam!

– Mike Acord (4th yr resident)



Above L to R: Daon Ha, Quang Nguyen, Jason Song, Tom Anderson, and Christine Chen.
Below: Quang Nguyen, Sahil Mehta, and Yuri Shif.



BIDMC RADIOLOGY in the NEWS: Debbie Levine becomes Vice President of the American College of Radiology, *EMERITUS*



The pictures here were taken at the AMCLC meeting in Washington DC in May 2015, and marked a highpoint in my involvement in the American College of Radiology. I started 20 years ago as an ACR representative to the Sonography Coalition. This was followed by involvement in Ultrasound



This is during the "changing of the guard" ceremony, where I was officially being replaced as Vice President.

Committees for Human Resources and Economics. I also spent time as ACR representative to the Joint Commission on the Diagnostic Medical Sonography Committee and the Commission on Accreditation of Allied Health Education Programs. More recently I was chair of the Ultrasound Commission and on the ACR Board of Chancellors. Then, this past year I was Vice President of the ACR and the ACR representative to the Canadian Association of Radiologists. These activities have allowed me to interact with individuals involved in multiple health care subspecialties, with specialists in medical education, and with Radiologists from around the world. Being the Vice President of the American College of Radiology was a true privilege. In these pictures I am in the robes for the convocation, which is a ceremony celebrating the new fellows of the ACR and other award winners. ***My advice to all our trainees and faculty is to get involved and stay involved in organized medicine. Pick one or two societies that have core values similar to your own, and contribute your time and enthusiasm.***

Deborah Levine, MD FACR
Professor of Radiology, HMS / Vice Chair of Academic Affairs, Department of Radiology
Director of Ob/Gyn Ultrasound, BIDMC

DEPARTMENTAL NEWS: *Comings & Goings*

Farewell Andrew Bennett

The Emergency Radiology section gathered recently for brunch at Alden and Harlow in Harvard Square to say farewell and thank you to Dr. Andrew Bennett. Dr. Bennett has been an enormous help to the Emergency Radiology section over the past several years, filling in whenever needed with enthusiasm as well as participating in educational activities. We appreciate all of his help and interest in Emergency Radiology and wish him luck in his new pursuits this summer as an Emergency Radiologist in Worcester.

– Robin Levenson
Interim Chief of Emergency Radiology



Robin Levenson, Karen Lee, Sejal Shah, Andrew Bennett.



Please welcome Dr. Georgeta Mihai, the newest addition to the Medical Imaging Physics team

Dr. Mihai has a PhD in Biophysics from the Ohio State University. She is ABR certified in Diagnostic Medical Physics. Prior to joining BIDMC Georgeta was Adjunct Assistant Professor of Radiology and a Diagnostic Medical Physicist at OSU. She was involved in the clinical physics and graduate and undergraduate education programs at the Wexner Medical Center.

Dr. Mihai's research and development strengths are in magnetic resonance imaging. She has authored or coauthored more than 25 peer-reviewed journal articles, five book chapters and she holds a patent related to MR imaging technology.

Clinically, Georgeta will focus initially on MR physics but her breadth of experience spans the full spectrum of modalities in Radiology. At Wexner she was deeply involved in compliance and quality assurance in breast imaging and in CT where she was a major contributor to rebuilding the QA program for revised ACR guidelines.

Georgeta is looking forward to supporting the clinical, research and teaching efforts in Radiology. I feel fortunate that we were able to recruit such a personable and talented individual. I hope you will all join me in welcoming Georgeta Mihai to BIDMC and please reach out to her with ideas, collaborations, advice, or to offer or request support.

– Matt Palmer
Physicist and Manager, Medical Imaging Physicist

Speaking of new members of BIDMC . . .

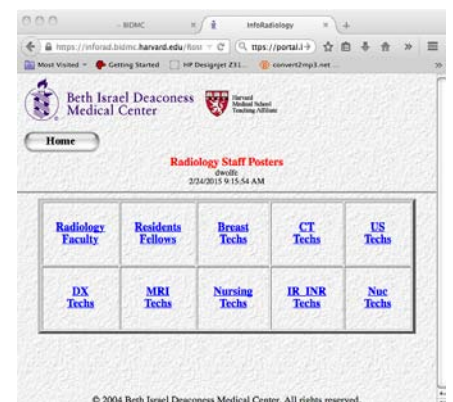
REMINDER: Updated Radiology Technologist Rosters & Staff Posters are available on InfoRadiology in pdf format for viewing, downloading, and printing

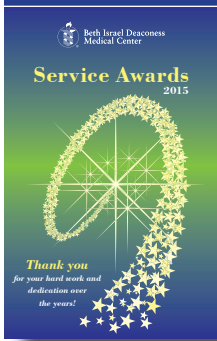
Log in to the portal: <https://portal.bidmc.org/>

If you don't already have InfoRadiology displayed in **My Applications**, Click on the **Applications** tab and then under **Clinical**, click on **Inforadiology**. Log into Inforadiology, Click on the **Staff Posters Tab** to view/download/print the most current Tech Rosters, etc.

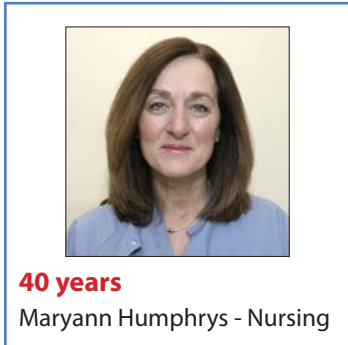
Managers: please contact Michael Larson (mlarson1@bidmc.harvard.edu) to update rosters as needed

2015-2016 Staff & Resident/Fellow posters will be available in late July 2015





BIDMC Radiology 2015 Service Awards - On Thursday, May 25th, BIDMC held the annual Employee Service Award Recognition Event at the Best Western Inn at Longwood Medical to honor employees who reached their 20-50 years of service milestones and as you can see below, Radiology was quite well-represented. Congratulations to all!



Back row: Scott Gillespie, Ana Cordero, Donna Wolfe, Allan Finnegan, Linda Lintz, Gail Johnson
Front row: Linda Horion, Igor Gershgorin, Richard Mitchell, Laurie Sammons and Debbie Barnhill

35 years

- Deborah Barnhill - US
- Diana Daley - Nursing
- Melanie Gallagher - Nursing
- Marjorie Guthrie - IR
- Gerald Kolodny - NMMI
- Patricia MacDonald - IR
- Carol Mccann - Image Archives

30 years

- Vicki Pappas - Dx
- Janet Riley - CT

25 years

- Maryann Buttacavoli - MR
- Ana Cordero - Dx
- Deolinda Depina - Support Svcs
- Allan Finnegan - IR
- Jonathan Kruskal - Chief
- Janice Kulas - Support Svcs
- Laurie Sammons - US
- Kevin Sands - Dx

20 years

- Nancy Deveno - Support Svcs
- Igor Gershgorin - Dx
- Scott Gillespie - Support Svcs
- Linda Horion - Support Svcs
- Gail Johnson - Support Svcs
- Jae Kim - CT
- Deborah Levine - HMFP/US
- Linda Lintz - Administration
- Richard Mitchell - NMMI
- Dorothy Sands - Breast Imaging
- Jonathan Underhill - IR
- Carol Wilcox - CT
- Donna Wolfe - Medical Editor

15 years

- Judith Adams - Breast Imaging
- Phillip Boiselle - Cardiothoracic
- Caroline Comparone - Mobile US
- Michael DeAngelis Jr. - US
- Daniel Gerardi - Dx
- Marianne Johnson - US
- Richard Munro - CT
- Carol Norman - Support Svcs
- John Schembri - Dx
- Bettina Siewert - HMFP/Abd

- Walter Smith - Support Svcs
- Diane Valentine - Support Svcs
- Josefina Valera - Support Svcs

10 years

- Etsegenet Asamenew - Pt Transport
- Andrew Bennett - HMFP/ER
- Jenna Brisson - Dx
- Tracy Cataldo - US
- Robert Chotalal - Dx
- Jermaine Christian - Support Svcs
- Allyssa Croce - Dx
- Kelly Cronin - Nursing
- Vandana Dialani - HMFP/Breast Imaging
- Joseph Eloi - Pt Transport
- Karen Faich - Dx
- Salomao Faintuch - HMFP/IR
- Marie Farrar - Dx
- Rebeca Figueroa - Support Svcs
- Jean-Alberique Fleury - Pt Transport
- Anthony Gattonini - CT
- Sarah Ghanem - Nursing
- Rajeev Krishnapillai - CT
- Connie Kutsaftis - MR
- Hannah McArdle - US
- Youssef Moudni - Dx
- Kristina Pelkola - MR
- Kelli Roche - MR
- Ricardo Stewart - Dx
- Marianne Sullivan - US

5 years

- Muneeb Ahmed - HMFP/IR
- Victoria Albano - Breast Imaging
- Olga Brook - HMFP/IR/Abd-CT
- Lynne Coppens - US
- Meredith Cunningham - Admin
- Gina Donaher - Breast Imaging
- Carl Eloi - Dx
- Lauren Finn - Dx
- Walson Germain - Pt Transport
- Melissa Hackett - Support Svcs
- Deborah Humphries - Breast Imaging
- Lauren Hurley - Nursing
- Farrah Issa - Image Archives
- Robin Levenson - HMFP
- Jason Mangosing - MRI
- Devon O'Connell - Nursing
- Phoebe Olhava - HMFP/ Breast Imaging
- Ammar Sarwar - HMFP/IR
- Cynthia Snell - MR
- Linda Thiem - Dx
- Leo Tsai - HMFP/Abd-MRI
- Krista Wolforth - MRI

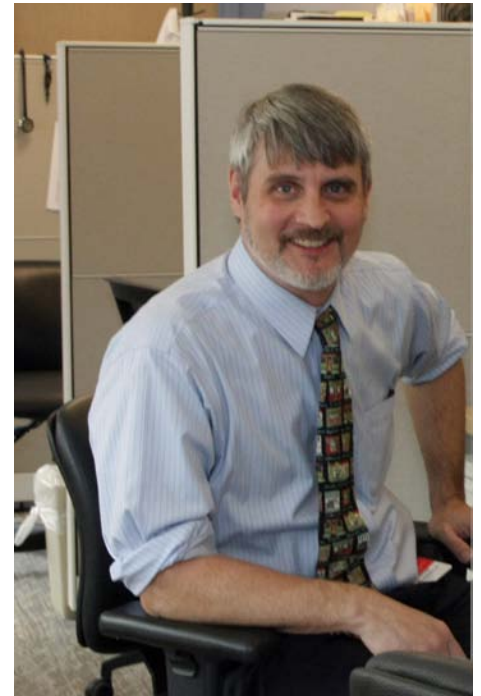
Note that Bob Cherry, Vice President of Support Services, and his team will be arranging a separate event to honor those celebrating their 5-15 year milestones.

DEPARTMENTAL NEWS: *Introducing our Nurse Practitioners (NP) and Physician's Assistants (PA) in Radiology*

Nurse Practitioners (NPs) and Physician's Assistants (PAs) are integral partners in radiology, facilitating throughput and collaborating with the physicians' practice so efficiently that they are nearly invisible. In this issue, I am pleased to increase their visibility **and our appreciation** by highlighting the role of our NPs/PAs in radiology through Radical Views. Following our profiles of Breast Imaging NP, Nancy Littlehale, and Abdominal Imaging NPs Sarah Ghanem and Kate Schmid, we introduce/update everyone on IR PA, Jon Underhill. – Donna Wolfe, Editor

Introducing Jonathan Underhill, PA-C

"I serve as the Physician Assistant for Angiography in our Division of Vascular and Interventional Radiology. I started my career at the New England Deaconess Hospital way back in 1994 (that could explain the gray hair) and left the department for a short time (7 years) but stayed within the BIDMC system. Realizing the error of my ways, I returned to the Department of Radiology in 2007. My primary responsibilities are the coordination of outpatient procedures, performance of outpatient H&Ps and the pre- and post- procedure care of patients (and a lot of other stuff that would bore you to tears – just ask the fellows/residents who cover me when I am away). I have also been blessed with the privilege of carrying the IR/Angio call pager and I hope that one day people (Residents, Interns, Medical Students) will understand that IR is not exclusive to Angio but also includes other modalities that have their own pagers so **feel free to page them!** Like so many overachievers, in my spare time I dream about winning the lottery and retiring early."



Jon talks like this to everyone and his patients love him!
- Sr. IR Tech Patti MacDonald



John keeps 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. - Interventionalist and former IR Chief, Barry Sacks, MD

The Gallery presents **Double Exposure:** *Africa as seen by two BIDMC Radiologists* at WCC-304B

Peter Gross, MD

*Breast Imager & Philosopher** shares his photos of Serengeti's **Ngorongoro Conservation Area**



**"Photography has always fascinated me, not only because of the beauty of how I perceive and record the world around me, but because its similarities to how we obtain images of our patients including sensitivity of the sensor, time spent recording the image, and finally, size of the opening of the lens. Aren't these settings so close to our choices as radiologists in selecting intensifying screens, KVP, and milliamperage?"*

As always, please contact Donna Wolfe if you, too would like to share your photos, paintings or sculptures: dwolfe@bidmc.harvard.edu or 4-2515

Sahil Mehta, MD

4th yr Resident shares his photos of Botswana's **Chobe National Park**



"Supported by an ACR grant as well as the department, I was able to spend time at Scottish Livingston Hospital (SLH) in Molepolole, Botswana. Molepolole is the largest village in Botswana and SLH supports their population.

Unfortunately, they have limited radiology facilities (1 xray, 2 ultrasounds and no CT or MRI) and no radiologist. I spent my time devoted to education and patient care, performing ultrasounds and teaching the clinicians there how to use the machines. It was a great experience.

Botswana is also known for incredible wildlife, especially at Chobe National Park where I spent a weekend and captured some of these shots. Hope you enjoy!"

– Sahil

In Honor of Nurses' Week: Thank you for all you do every day!



Radiology Niursing Staff:

- Anne Barrett
- Cheryl Bunting
- Ann Marie Cathcart
- Sarah Ghanem
- Nancy Littlehale
- Christina Abate
- Devon O'Connell
- Katherine Schmid
- Jonathan Underhill
- Joseph Aloisi
- Kim Antonellis
- Michelle Barr-Daley
- Kelly Cronin
- Diana Daley
- Lindsay Downes
- Kevin Flinn
- Martha Foote
- Melanie Gallagher
- Karen Gardner
- Michelle Geraghty
- Robin Griggs
- Lisa Grimaldi
- Cindy Gwozdz
- Maryann Humphrys
- Lauren Hurley
- Maryellen Johnson
- Karen Kennedy
- Kristin Lundy
- MaryBeth Malolepszy
- Hazel Malolos
- Nadia Muscato
- Amylee Nelson
- Bridget O'Bryan
- Kerin Anne Rogers
- Mary Ryan
- Lindsay Snowden
- Colleen Sutera
- Suzanne Swedeen
- Marivic Tolete
- Michael (Adam) Walton
- Thao Bui
- Lorena Butcher
- Acelia Pluvoise
- Shakinah Sequea

KOMMUNITY KORNER: Community Radiology



Jeffrey Bernard, RT
Manager, Community
Radiology Network Services

Harrington Healthcare at Spencer

Recently, Harrington Memorial Hospital opened a new physician's practice at 118 West Main St., Spencer, MA, located above the Webster First Federal Credit Union.

The Spencer location includes internal medicine, cardiology, gynecology, rheumatology, and orthopedic specialties. The space was recently expanded to accommodate up to nine providers, which will allow for

future growth of the building to make healthcare more accessible for the Leicester, Spencer, and Brookfield(s) residents. The floor also features a new build out for diagnostic x-ray imaging. Radiology services are available Monday through Friday 8am to 4pm. As with all the diagnostic imaging sites within Harrington, all imaging are read by Harvard Medical Faculty Physicians from Beth Israel Deaconess Medical Center. With the expansion of clinical sites and services throughout the Harrington HealthCare System comes community participation to support these endeavors (see below right).



Community Radiology Welcomes Ms. Diana Moran

Recently, Diana Moran, administrative associate from the Neuroradiology section has joined Community Radiology as our administrative associate.



Diana took the reins from Claire Odom, whom recently retired. In her new role, Diana supports all the community radiologists as well as the Emergency Radiology group with administrative support. In addition, she is the point person for all the community sites. Keeping track of schedules, the flow of information and meeting the needs of our client sites are just a few of the many things Diana does to keep us afloat. Diana's warm personality and inviting smile make her a perfect fit to represent Beth Israel in the community.

Diana lives in Attleboro with her husband, Lawrence, and her German shepherd, Blackjack. She enjoys doting on her three grandchildren and cooking delicious Italian meals.



More than 250 Celebrate Mental Health with Color Run - Harrington event shines light on behavioral health

SOUTHBRIDGE, Mass. – May 4, 2015 – The weather couldn't have been better

for Harrington HealthCare System's Take a Mental Health Day 5K run, and the community responded with force. More than 250 people came out to celebrate Mental Health Awareness Month with the healthcare system's first ever color run/walk. The event was a fund raiser for an inpatient psychiatric unit to be constructed at Harrington HealthCare at Webster. The 14 bed adult unit will offer a secure hospital setting to receive care for a variety of behavioral health issues. . . Along the course, runners and walkers passed through four color stations – comprised of food-grade, non-toxic cornstarch powder in blue, red, yellow, and green. People emerged at the finish line splashed in an array of colors, enjoyed taking pictures with friends, and had fun with the leftover color at the end of the event.

"This event was a huge success, not just for Harrington but for the Southbridge community and surrounding area," said Don Brechner, Vice President of Behavioral Health Services. "So many people are affected by behavioral health--this was just one way we helped bring awareness to the critical need to keep services in the area.



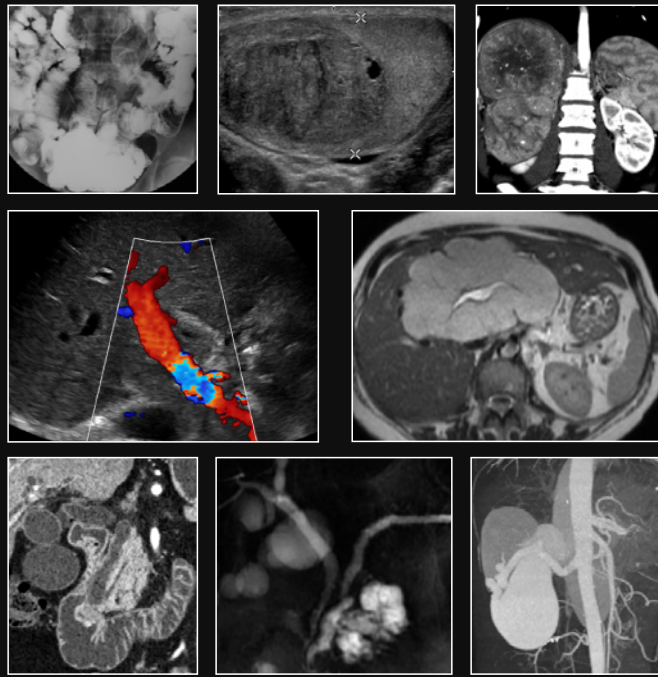
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Medical Center
Department of Radiology

Abdominal & Pelvic Imaging 2015

A Practical Multi-Modality Review Course of GI and GU Radiology



Monday - Wednesday

June 22 - 24, 2015

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Abdominal & Pelvic Imaging 2015:
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Predictors of diagnostic success in image-guided pediatric soft-tissue biopsies

Michael Acord¹ · Raja Shaikh²

Pediatric Radiology

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Abstract

Background Image-guided percutaneous core needle biopsy (PCNB) of soft-tissue lesions is a minimally invasive technique that can provide a definitive diagnosis for treatment. Anatomical and age considerations in children require judicious use of safe percutaneous biopsy techniques. There are, however, limited data on the determinants of diagnostic yield in soft-tissue lesions in this population.

Objectives To assess lesion-related and technical factors that affect diagnostic yield and safety in PCNB of pediatric soft-tissue lesions.

Materials and methods This was a retrospective cohort study of 205 PCNB performed from January 2000 to July 2014. Diagnostic yield and its associations with technical and lesion-related factors were evaluated using bivariate analysis.

Results The mean patient age was 11.1±6.9 years (interquartile range [IQR]: 4.3–16 years). Ultrasound guidance alone was used in 91% of cases. The mean number of passes was 7.5±3.2 (IQR: 5–9 passes) per case. The overall diagnostic yield was 75% and the overall accuracy was 88%. Performing fewer than four passes was associated with a nondiagnostic biopsy ($P=0.001$). There were no lesion or other technical factors that predicted a diagnostic biopsy. There were two complications (1%) over 14 years.

Conclusion Image-guided PCNB is a safe and effective means for the diagnosis of pediatric soft-tissue abnormalities.



Michael Acord, MD
4th Year Radiology Resident, BIDMC

Aside from performing at least four passes, our data show no technical or lesion-related factors that increase diagnostic yield in pediatric PCNB of soft-tissue lesions.

Keywords Children · Image-guided biopsy · Percutaneous core needle biopsy · Soft tissue · Ultrasound



Raja Shaikh, MD
Clinical Director,
Interventional
Radiology, Boston
Children's Hospital,
BIDMC VIR Fellow
2010-2011

Introduction

Image-guided percutaneous core needle biopsy (PCNB) is an established technique for obtaining soft-tissue samples for diagnostic pathology. This minimally invasive approach has several advantages over an open surgical technique including timeliness, safety and cost effectiveness [1, 2]. Although older studies have validated the diagnostic utility and safety of musculoskeletal PCNB, there has been an ongoing effort to improve the diagnostic yield and accuracy of this technique, particularly in adults [3–5].

For example, several studies of biopsies in adult bone and soft-tissue lesions have shown that diagnostic yield improves with the addition of imaging guidance, a larger target size and malignant pathology as well as obtaining a longer core specimen [6–9]. Other studies suggest that lesions in a paraspinous location are more challenging to diagnose by a percutaneous needle approach [10]. It is difficult, however, to extrapolate these data to children. PCNB in adults is often performed with CT guidance, a modality less commonly used in pediatric biopsies, and children and their lesions are often smaller, which has the potential to make targeting more complex.

Although the available pediatric literature on PCNB suggests a similar diagnostic yield as in adults, most of these studies focus on bone and/or solid organ lesions [7, 8, 11–17]. There have been no studies of the overall diagnostic yield or of predictors of increased diagnostic yield in pediatric soft-tissue lesions. This information is particularly important

✉ Michael Acord
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² Boston Children's Hospital, Harvard Medical School, Boston, MA, USA

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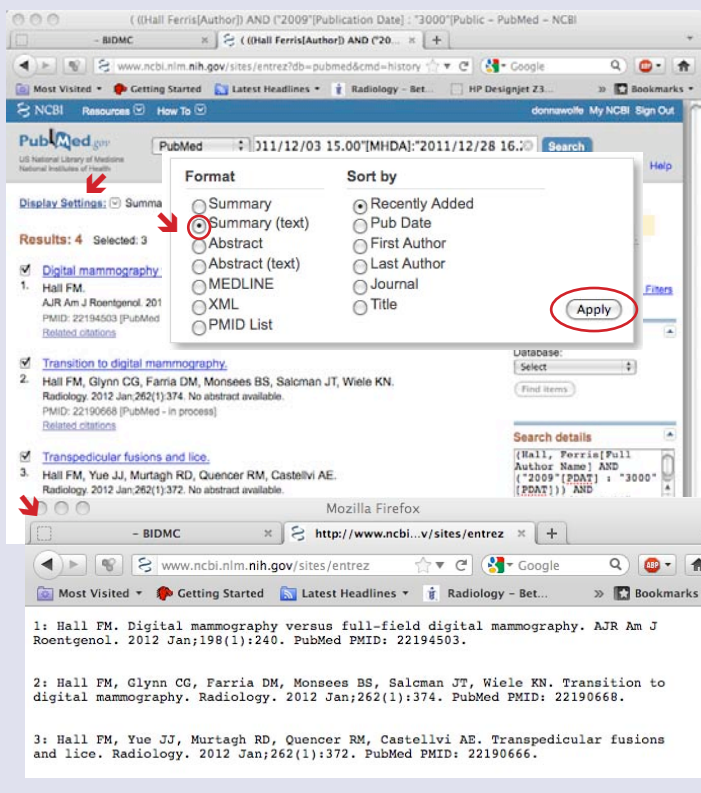
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