Beth Israel Deaconess Medical Center | A teaching hospital of Harvard Medical School
October1, 2011 Volume 4, Number 3

Radical Views...

from the Department of Radiology October 2011

Mon	Tues	Wed	Thurs	Fri
3 7:30 - 9:00 Cardiac Imaging Week 3:00-4:00 ED section meeting (monthly) [ED annex, WCC] call Sheila Blalock 4-2506	4 7:30 - 9:00 Cardiac Imaging Week 1:00-2:00 MRI meeting (Weekly) [TCC-484]	5 7:30 - 9:00 Cardiac Imaging Week Weekly Wed Section Meetings: 11:00-12:00 MSK clinical conference 12:00-1:00 Thoracic Imaging, GI Oncology/GU Oncology 3:00-4:00 Mammo [TCC-484]	6 7:30 - 9:00 Cardiac Imaging Week Weekly Thurs Section Meetings: 12:00 - 1:30 Abd [WCC-354] 12:00-1:00 MSK 2:00-3:00 West Med-Rads	7 8:00 - 9:00 Grand Rounds: Sven Paulin Lecture - MRI in the Metabolic Syndrome: Heart, Kidney, Brain (Dr. Albert de Roos, Deputy Editor, *Radiology*)
10	11 7:30 - 9:00 Cardiac Imaging (Dr. Sarwar) 10:30-11:30 Nuc Med meeting (GZ-103)	12 7:30 - 8:15 Fetal Skeletal Abnormalities (Dr. Levine) 7:15 - 8:00 US meeting (WCC-304A Gallery)	13 7:30 - 8:15 How to Describe Chest Imaging Findings (Dr. Spirn) 8:15-9:00 Mediastinal Masses (Dr. Boiselle)	14 8:00-9:00 Grand Rounds: State of the Department address (Dr. Kruskal)
17 7:30 - 9:00 PET/CT (Dr. Parker)	18 7:30 - 8:15 Metabolic Bone Diseases (Dr. Donohoe) 8:15-9:00 GI Bleeding (Dr. Donohoe) 8:00 - 9:00 IR meeting [West Recovery Rm] 2:00-3:00 West Med-Rads	19 8:00-9:00 Thoracic Imaging Cases (Dr. Pierre Alain Gevenois, guest speaker)	20 7:30 - 8:15 Radionuclide Decay (Dr. Donohoe) 8:15 - 9:00 Body Scans - Malignant (Dr. Kolodny)	21 7:30-9:00 No Grand Rounds Event: NERRS
24 7:30 - 8:15 Gynecologic U/S Cases (Dr. Levine) 8:15 - 9:00 Fluoroscopy(Dr. Palmer)	256 7:30 - 8:15 Nomenclature for Thoracic Diseases (Dr. Bankier) 8:15 - 9:00 Chest Imaging Cases (Dr. Bankier) 10:30-11:30 Nuc Med meeting (GZ-103)	26 7:30 - 9:00 Physics of Ultrasound (Dr. Madore)	27 7:30 - 8:15 Ob/Gyn U/S Lecture - TBA (Dr. Romero) 8:15 - 9:00 Nuclear Medicine - Radionuclides (Dr. Palmer)	28 8:00-9:00 Grand Rounds: Interventional Musculoskeletal Ultrasound (Dr. Jon Jacobson, Dir., MSK Radiology, U Michigan)
31 7:30 - 9:00 GI & GU				

OCTOBER GRAND ROUNDS: Visiting Professors

Albert de Roos, MD PhD - 5th Annual Sven Paulin Lecture: *MRI in the Metabolic Syndrome: Heart, Kidney, Brain*
Friday, October 7 • 8:00-9:00 am Sherman Auditorium (followed by a breakfast reception in honor of Dr. Paulin's 85th birthday on Rabb 3, East Campus - Chest Reading Room corridor)

We are proud to welcome Dr. Albert de Roos, Deputy Editor of *Radiology* and Professor of Radiology at Leiden University, who will deliver the 5th annual Sven Paulin Lecture entitled *Multi-Organ MRI in the Metabolic Syndrome*. Dr. de Roos received his medical degree *cum laude* from the University of Amsterdam in 1980 and completed radiology residency training at the University Hospital Leiden, The Netherlands while pursuing a PhD which he received in 1985. A prolific scholar, he has authored more than 576 scientific publications and currently serves as a reviewer for the *European Journal of Radiology, Magnetic Resonance in Medicine, Circulation, American Journal of Cardiology, Journal of Magnetic Resonance Imaging, Journal of Computerized Tomography, RadioGraphics, American Journal of Cardiology, American Journal of Roentgenology* and the *New England Journal of Medicine*. Moreover, he has also served as cardiac section editor for *European Radiology* and *Eurorad* and Associate Editor for *Radiology*. In 2008, Dr. Herbert Kressel appointed him Deputy Editor for cardiac imaging for *Radiology*. In his spare time, Dr. de Roos has organized the Erasmus course in cardiovascular MRI since 1992. This course, part of a European Commission supported education initiative between 12 European Universities aimed at implementing a standard training curriculum, focuses on clinical applications of MR imaging of the heart and vascular system with CT correlation. Please note that the Division of Thoracic Imaging will host a breakfast reception in honor of Dr. de Roos and the 85th birthday of Dr. Sven Paulin immediately after grand rounds in the Chest Reading Room corridor on Rabb 3, East Campus.

OCTOBER GRAND ROUNDS: Visiting Professors

Jon Jacobson, MD - *Interventional Musculoskeletal Ultrasound*

Friday, October 28 • 8:00-9:00 am Sherman Auditorium

Dr. Jacobson is currently Professor of Radiology at the University of Michigan, Ann Arbor and Director of Musculoskeletal Imaging at the University of Michigan Hospitals. He received his MD *with high distinction* from Wayne State University School of Medicine in Detroit and completed residency training in diagnostic radiology at the Henry Ford Hospital, also in Detroit followed by a fellowship in musculoskeletal radiology the University of California, San Diego. A consistently extramurally funded investigator with more than 148 peer-reviewed papers, he has also distinguished himself as an excellent teacher and mentor. In 2000, he and his co-authors were awarded the Silver Medal by the American Roentgen Radiology Society for an "Interactive tutorial of musculoskeletal sonography on the World Wide Web" and in 2007, he received the Cum Laude award from the Radiological Society of North America for "Interventional musculoskeletal ultrasound: Techniques and applications."

Pierre Alain Gevenois, MD PhD - *Thoracic Imaging Cases*

Wed., October 19 • 8:00-9:00 am Clouse Conference Room, WCC-4

In addition to our Grand Rounds speakers this month, please note a third distinguished visiting professor, Pierre Alain Gevenois, will be speaking on Wednesday October 19th. Dr. Gevenois is Professor of Radiology at the University of Brussels, Belgium, where he currently serves as chief of the Thoracic Imaging Section. He has published several teaching books, notably on the imaging of chronic obstructive pulmonary diseases and CT dose reduction. He has also authored a large number of research articles and is internationally known for his seminal work on the CT quantification of pulmonary emphysema. Our own Thoracic Imaging section is delighted that Dr. Gevenois will be speaking to the residents at morning conference in addition to addressing the section during their research meeting later on that day.

DEPARTMENTAL NEWS, AWARDS & HONORS

FROM THE CHIEF
Jonathan B. Kruskal, MD PhD

- **Happy 85th birthday, Sven!**

In honor of this milestone, we will be celebrating with a birthday breakfast on Friday, October 7th following the 5th annual Sven Paulin Lecture to be delivered by Albert de Roos. The breakfast will be held in the Chest Reading Room area of Rabb-3 in the East Campus. Those of you who were here for Sven's 80th birthday celebration may remember the "We ♥ Sven" buttons; there wasn't time to get more of these but we do want him to know that – thanks to Ann Cunha – we ***Still*** ♥ Sven!

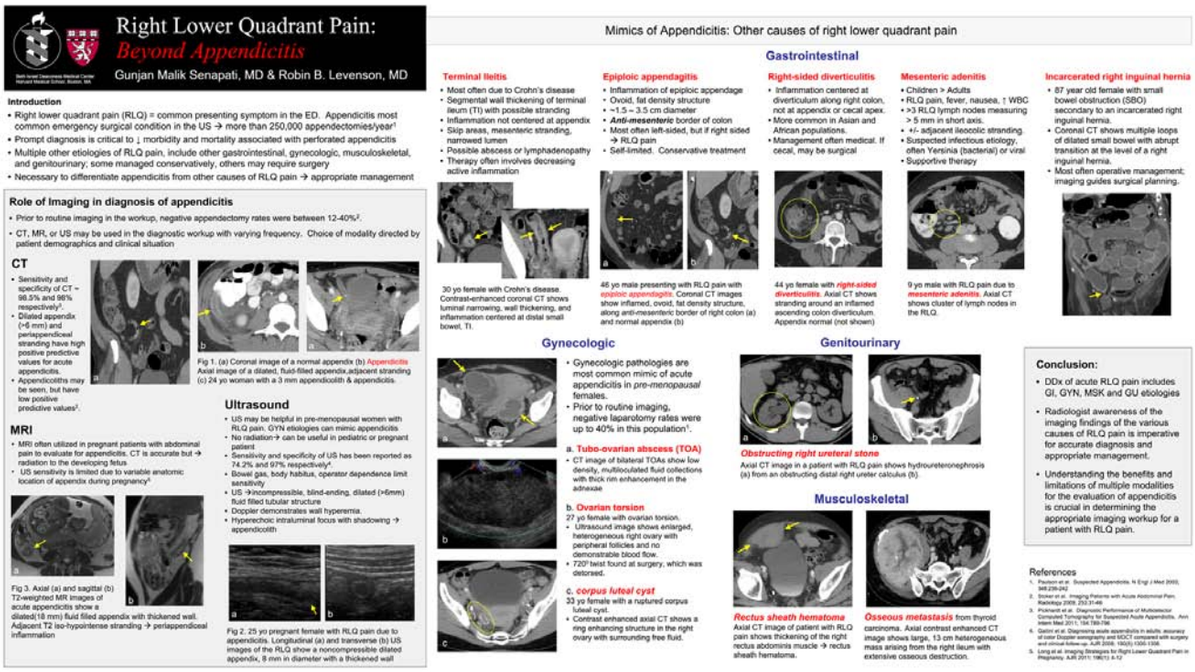
- **S.E.R.V.I.C.E.**

Speaking of Grand Rounds, I am grateful to Mr. Robin Brown of Spot-On Ventures for sharing his 35 years of customer service experience with us last month as part of our continuous improvement program. His S.E.R.V.I.C.E. acronym is a terrifically simple reminder of the tenets of our healthcare mission. Thanks to Max Rosen for organizing and hosting this Grand Rounds. Thanks to Larry Barbaras for posting this presentation on our grand rounds page for those of us who were unable to attend: https://apps.bidmc.org/departments/radiology/news/rounds/schedule.asp?academicYear=2011

- **Time Out Video**

I am pleased to announce that our universal protocol initiative also known as ***Time Out*** was presented as a training video to the hospital-wide interventional procedure committee to great acclaim. Our QA nurse Misti Mullins, nursing manager Bridget O'Bryan-Alberts and filmmaker extraordinaire Michael Larson created a very attractive and informative educational tool. Thanks also to all the technologists, nurses and attendings who participated. The video is now available on the Radiology QA page: https://portal.bidmc.org/Intranets/Clinical/Radiology/Safety.aspx

DEPARTMENTAL NEWS, AWARDS & HONORS



- I am pleased to report that 2nd yr resident Gunjan Senapati (working with Robin Levenson) won 3rd place for their poster on RLQ pain etiologies "Beyond Appendicitis". This marks the 3rd year in a row BIDMC has won an award at the American Society of Emergency Radiology annual meeting. Last year, my talk on chest pain imaging (with David Li as lead author) won 1st place, and in 2009, Girish Tyagi's talk on coronary CTA (on a project with a number of collaborators) won 2nd place, both of these in the oral presentation category.

  I would also like to take this opportunity to promote ASER to the residents in particular. Membership for residents is free and provides print and online access to the society's journal "Emergency Radiology". The website is growing and has great resources for residents, particularly as they go through call. Also, the 1st 50 residents to register for the annual meeting get free registration. Next year's meeting is in New Orleans, and I will be on the program committee. Although my formal relationship with BIDMC will end soon, I will remain active in the society. I truly hope BIDMC residents take advantage of this offer, and I hope to see some of them in Louisiana next year! Maybe more of them can bring home some "hardware"!

  – Marc Camacho, Chief, Emergency Radiology

- **Congratulations Elizabeth Asch, Jay Pahade and Cathy Wells**

  2nd yr resident **Elizabeth Asch** has been selected to attend the Society of Radiologists in Ultrasound (SRU) 2011 annual meeting as part of the Toshiba Residents Program. The meeting will be held October 21-23 in The Westin Michigan Avenue Hotel in Chicago. As a Toshiba Resident she must submit an ultrasound-related case for the Residents' Page of the SRU website prior to the meeting and the best case, as judged by the SRU Executive Board, will be published in Ultrasound Quarterly, the official journal of the SRU.

- 2011 abdominal imaging fellow (and now attending at Yale School of Medicine), **Jay Pahade** and 2011 graduating resident (and now a breast imaging fellows at MGH) **Cathy Wells** were chosen both by the RSNA Scientific Program Committee to receive 2011 RSNA Trainee Research Prizes for their research projects: "Reviewing Imaging Examination Results Immediately after Study Completion with a Radiologist: Patient Preferences and Assessment of Feasibility" (Pahade) and "Does Mismatch in Breast and Detector Size During Screening and Diagnostic Mammography Result in Increased Radiation Dose?" (Wells). Prizewinners are encouraged to submit a manuscript for consideration for publication in Radiology, RadioGraphics, or Medical Physics. We'll be happy to see them at RSNA this year!

The Gallery *Now showing: Photographs by Senthil Palaniappun. Check it out at WCC-304A!*

Senthil Palaniappun,
VIR Fellow & Photographer

Senthil Palaniappun returns to BIDMC Radiology as a vascular and interventional fellow this year. On Monday, October 3rd, Dr. Palaniappun will mount his show of wildlife photographs in The Gallery. For those who can't wait until then, check out his website at: http://www.senthilwildlifephotos.com/gallery-list

2011 M+Vision Fellowship Program:
What began in Madrid now comes to Boston

- On October 12-13, 2011, the Madrid-MIT M+Vision Consortium, http://mvision.madrid.org, will hold its first Open House in Boston with a two-day event to showcase biomedical imaging research and development activities occurring in academia and industry in both Boston and Madrid. The primary goal is to facilitate networking among investigators in both cities and to catalyze relationships that could develop into collaborative projects. Further details will be e-mailed in the coming week.

  – Debbie Burstein, Director, Center for Basic MR Research and Functional Imaging of Cartilage Lab

Publication Call Outs: BIDMC Radiology article on CT dose reduction

Litmanovich D, Tack D, **Lin PJ, Boiselle PM**, **Raptopoulos V**, **Bankier AA**. Female Breast, Lung, and Pelvic Organ Radiation From Dose-Reduced 64-MDCT Thoracic Examination Protocols: A Phantom Study. AJR Am J Roentgenol. 2011 Oct;197(4):929-34. PubMed PMID: 21940581.

Consider the Breast and Lungs When Determining Thoracic Imaging Protocols

Carefully consider the radiation dose to the breast and lungs before deciding which CT protocol to use for thoracic imaging of individual patients, a new study cautions.

The study compared organ doses to the breast, lungs and pelvis using commonly used protocols and found a change in protocol could decrease breast radiation dose by more than 50 percent. "The highest doses to the breast skin and parenchyma were found with our standard thoracic CT protocol (120 kVp, variable 120-320 mA) and the protocol we use to assess for pulmonary embolism in the general population (120kVp, variable 200-394 mA)," said Dr. Diana Litmanovich of Harvard Medical School in Boston, and the lead author of the study. "We found the dose was reduced by more than half when we used our protocol for assessing pulmonary embolism in pregnant or young patients," (100 kVP, fixed 200 mA), said Dr. Litmanovich.

The standard thoracic CT and the pulmonary embolism protocols also led to the highest radiation doses to the lung, Dr. Litmanovich said. The lung received the highest organ dose regardless of the protocol, while pelvic radiation was low regardless of the protocol, she said.

"Despite efforts to reduce radiation dose, irradiation of the breast and lung remain substantial," said Dr. Litmanovich. "The study emphasizes the need for caution when we are planning our CT protocols," she said.

– AJR Press Release by Keri Sperry

- **Congratulations to the School of Diagnostic Ultrasound Class of 2012**

  Congratulations to Meghan Connolly, Andrea Murphy, Nicole Lafrance, Michaela DeRoche and Nicky Canuel for winning third place in the annual meeting of the Society of Diagnostic Medical Sonographers (SDMS) Student Poster Exhibit Competition in Atlanta. Many of my colleagues have been contacting me from the conference asking for copies of the posters ***Departmental Ergonomics Survey Parts 1 and 2***. Congratulations also for passing the ultrasound physics exams!

  – Cory Finn, Program Director, School of Diagnostic Medical Sonography

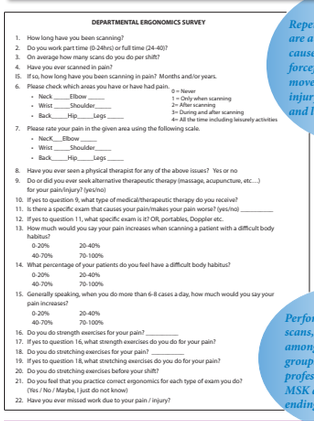
[Please see page 5 for a reproduction of the posters; we show the authors here as the original posters were entered as blind submissions]

L to R: Nicole Lafrance , Meghan Connolly, Andrea Murphy, Michaela DeRoche, Nicky Canuel and Cory Finn

Departmental Ergonomics Survey Part I: Pain & Positioning

INTRODUCTION:

Since the 1980's, sonographers have been reporting work-related injuries to their necks, wrists, shoulders and arms. In response to these musculoskeletal injuries, education and ergonomic awareness has been on the rise. Due to the number of scanning-based injuries in our own department, we did a survey of our peers. Our purpose was to better understand the extent of pain, injuries as well as to delineate the practice of proper ergonomics in our workplace. Based on the results of our survey, we prepared a two part poster illustrating harmful body positions, associated pain, alternative body mechanics and how to prevent injury by strengthening and stretching major muscle groups. Below is the survey, sent out to 40 sonographers at a major teaching hospital, 29 were completed.



DEPARTMENTAL ERGONOMICS SURVEY

1. How long have you been scanning?
2. Do you work part time (0-24hrs) or full time (24-40)?
3. On average how many scans do you do per shift?
4. Have you ever scanned in pain?
5. If so, how long have you been scanning in pain? Months and/or years.
6. Please check which areas you have or have had pain.
   - Neck _____Elbow _____
   - Wrist _____Shoulder _____
   - Back_____Hip_____Legs _____

   0 = Never
   1 = Only when scanning
   2= After scanning
   3= During and after scanning
   4= All the time including leisurely activities
7. Please rate your pain in the given area using the following scale.
   - Neck___Elbow _____
   - Wrist _____Shoulder_____
   - Back_____Hip_____Legs _____
8. Have you ever seen a physical therapist for any of the above issues? Yes or no
9. Do or did you ever seek alternative therapeutic therapy (massage, acupuncture, etc…) for your pain/injury? (yes/no)
10. If yes to question 9, what type of medical/therapeutic therapy do you receive?
11. Is there a specific exam that causes your pain/makes your pain worse? (yes/no) _____
12. If yes to question 11, what specific exam is it? OR, portables, Doppler etc.
13. How much would you say your pain increases when scanning a patient with a difficult body habitus?
    0-20% 20-40%
    40-70% 70-100%
14. What percentage of your patients do you feel have a difficult body habitus?
    0-20% 20-40%
    40-70% 70-100%
15. Generally speaking, when you do more than 6-8 cases a day, how much would you say your pain increases?
    0-20% 20-40%
    40-70% 70-100%
16. Do you do strength exercises for your pain? _____
17. If yes to question 16, what strength exercises do you do for your pain?
18. Do you do stretching exercises for your pain? _____
19. If yes to question 18, what stretching exercises do you do for your pain?
20. Do you do stretching exercises before your shift?
21. Do you feel that you practice correct ergonomics for each type of exam you do? (Yes / No / Maybe, I just do not know)
22. Have you ever missed work due to your pain / injury?

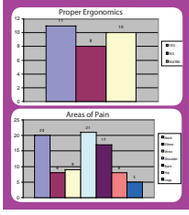
Repetitive stress injuries are a range of conditions caused by repetitive, forceful or awkward movements that cause injury to muscles, tendons, and ligaments.

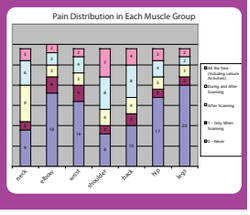
On average, within 5 years of entering the profession, sonographers experience pain while scanning.

Performing countless US scans, sonographers are among the highest risk groups in the medical profession for work-related MSK disorders and career-ending injuries.

Survey Results

AVERAGES:		
YEARS OF SCANNING:	12 YEARS	
HOURS WORKED/WEEK	32 HOURS	* Of the 11sonographers who feel they practice proper ergonomics, 54% perform strength training exercises and 63% stretch on a regular basis.
NUMBER OF SCANS/SHIFT	9 SCANS	
PERCENTAGES:		
HAVE SCANNED IN PAIN	88%	
HAVE SEEN PHYSICAL THERAPIST	32%	
SOUGHT ALTERNATIVE THERAPIST	72%	* Of the 25 sonographers who scan in pain, 36% have seen a physical therapist and 88% seek alternative therapy for their pain.
STRETCH FOR PAIN	72%	
PRACTICE STRENGTH TRAINING	64%	
STRETCH BEFORE SHIFT	8%	
MISSED WORK DUE TO PAIN	45%	

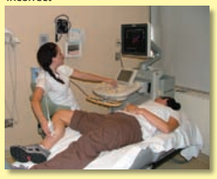




More than 80% of sonographers experience work related pain. Of those in pain, 20% suffer career ending injuries.

The number of procedures that sonographers perform per year has increased by 55.5% since 1992.

Incorrect



- Right shoulder is hyper-extended
- Right arm abduction greater than 30°
- Wrist is hyper-flexed
- Long reach with left arm
- Machine is too far away
- Leaning backwards and twisting the trunk
- Monitor above eye level causing hyper-extension of the neck
- Cable inappropriately around the neck

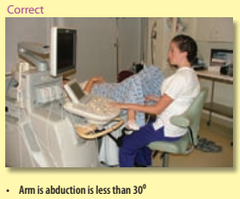
Correct

- Shoulder in neutral position
- Right arm abduction less than 30°
- Wrist in neutral position
- Left arm position is relaxed
- Machine positioned close to the Sonographer
- Normal spinal curvature while sitting
- Monitor at eye level

Incorrect

- Right arm abduction greater than 30°
- Examination table is too high
- Positioned to the side of the patient reaching with the right arm
- Monitor below eye level

Correct



- Arm is abduction is less than 30°
- Shoulder in neutral position
- Forearm parallel to floor
- Examination table at appropriate height
- Sonographer positioned close to the patient between the stirrups
- Monitor at eye level
- Normal spinal curvature while sitting

Incorrect

- Right arm abduction greater than 30°
- Neck is hyper-extended
- Monitor above eye level
- Twisting trunk and leaning forward
- Patient positioned too far away

Correct

- Right arm abduction is less than 30°
- Neck is in neutral position
- Monitor at eye level
- Normal spinal curvature

Incorrect

- Right arm abduction greater than 30°
- Weight is distributed only on the right hip
- Trunk is twisted
- Patient is positioned too far away
- Monitor below eye level

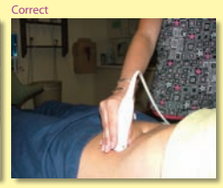
Correct

- Right arm abduction less than 30°
- Legs are balanced and equally supporting weight
- Trunk is not twisted
- Patient is positioned close to the Sonographer
- Monitor at eye level

Incorrect

- Wrist is hyper-flexed
- Pinch grip

Correct



- Wrist is in a neutral position
- Palmar grip

Incorrect

- Right arm reaching across the patient with abduction greater than 30°
- Looking up and leaning forward
- Shoulder is hyper-extended
- Monitor above eye level

Correct

- Positioned at the head of the patient with an abduction less than 30°
- Normal spinal curvature
- Forearm parallel to the floor
- Shoulder in neutral position
- Monitor at eye level

CONCLUSION

Based on our survey, we found that some, but not all sonographers in our department are taking the right steps in preventing pain and injury by strengthening and stretching. However, more than half do not practice proper ergonomics or lack the assurance that they are scanning using the correct techniques. Based on these results and the number of sonographers who have missed work due to pain or injury, we would recommend increased ergonomic training and education in the workplace to heighten the awareness and importance of preventing injury and using the proper scanning techniques.

References

1. Brown, G., et al, Industry Standards for the Prevention of Work-Related Musculoskeletal Disorders in Sonography, SDMS May 2003, pg 2-4.
2. Orenstein, B, Industry responds to MSK issues with ergonomic scanning beds, easier-to-grip transducers and automated protocols. SDMS News Wave, June 2011.
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4. Phillips, Ergonomic Solutions, 2011, www.healthcare.phillips.com
5. Sound Ergonomics, Ergonomic Courses for Sonography, Sound Ergonomics LLC, 2003.
6. Sound Ergonomics, Faculty Workbook Ergonomic Courses, Sound Ergonoics LLC, Kenmore Washington.
7. Waldbieser, Jill, Sonographers on Standby, RT Image, 2001, Volume 14, pg 18.

Departmental Ergonomics Survey Part II: Stretching & Strengthening

Stretching exercises - Hold stretch to the point of mild tension. Wait 30 secs and repeat.

Strengthening exercises - Perform 2 sets of 10 repetitions every other day. Perform 1 repetition every 4 secs.

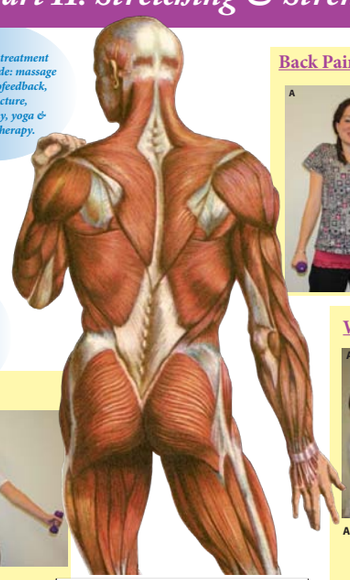
Neck Pain - 72% of sonographers reported neck pain

A. Chin Tuck
Pull head straight back while keeping jaw and eyes level. Hold position for 5-10 seconds.

B. Cervical Spine Upper Trapezius Stretch
Tilt head sideways to one side until stretch is felt on opposite side.
Pull down on the head with hand to increase resistance.

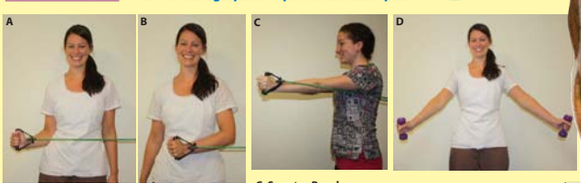
C. Levator Scapula Stretch
Tilt head sideways and then look down toward the shoulder until stretch is felt on opposite side. Pull down on the head with hand to increase resistance.

Alternative treatment options include: massage therapy, biofeedback, acupuncture, naturopathy, yoga & magnet therapy.



Most commonly affected muscles are the trapezius, infraspinatus, pectoralis minor & scalene.

Shoulder Pain - 72% of sonographers reported shoulder pain

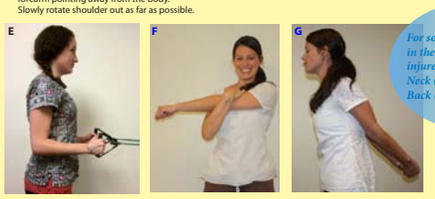


A. External Rotation
Hold the resistance band with elbow bent at 90° and forearm positioned across your body.
Slowly rotate shoulder out as far as possible.

B. Internal Rotation
Hold the resistance band with elbow bent at 90° and forearm pointing away from the body.
Slowly rotate shoulder out as far as possible.

C. Serratus Punch
Hold the resistance bands with arms on the side and elbows bent to 90°.
Extend elbows forward until they are straight.

D. Hitchhiker
Hold a dumbbell in each hand with palms facing in. Raise arms up at a 45° angle.

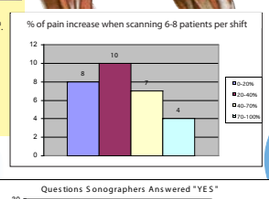


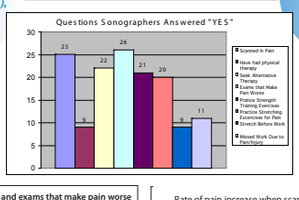
E. Standing Rows
Hold resistance bands with arms straight out in front and elbows slightly bent.
Pull the band towards chest by contracting shoulder blades and bending elbows to 90° ending at mid torso.

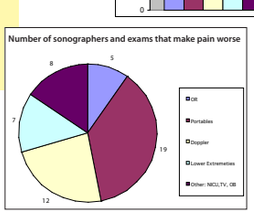
F. Posterior Shoulder Stretch
Cross one arm in front of body while using other arm to pull elbow and arm further across body.

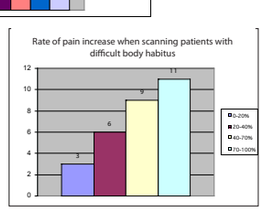
G. Chest Stretch
With back straight, clasp hands behind back. Lift arms up until stretch is felt across chest.

For sonographers, the areas in the body most often injured are: Shoulder (84%), Neck (83%), Wrist (61%), Back (58%), Hands (56%)



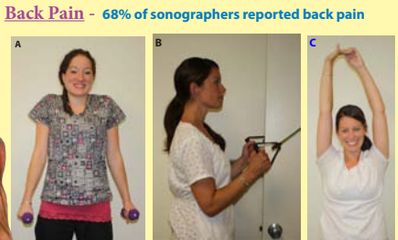






While an ergonomic workstation costs > $188k, failure to address ergonomics in the workplace can result in ~$580k in revenue loss.

Back Pain - 68% of sonographers reported back pain



A. Shrugs
With arms at the side, hold dumbbell in each hand with palms facing in. Shrug shoulders for at least 1 second then relax.

B. Latissimus Pulldowns
Holding the resistance bands overhead, pull bands down at a 45° angle. End 6-8 inches away from body while squeezing shoulder blades together.

C. Latissimus Dorsi Stretch
Stand upright with arms above head. Reach as high as possible until stretch is felt.

Wrist Pain - 36% of sonographers reported wrist pain

A. Wrist Extension
Grip the resistance band **with palm facing down**.
While supporting the arm, bring wrist and fingers up against the resistance band.

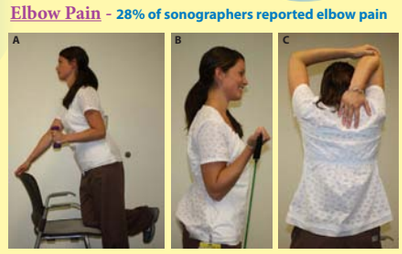
B. Wrist Flexion
Grip the resistance band with **palm facing up**.
While supporting the arm, bring wrist and fingers up against the resistance band.

C. Wrist Extensor Stretch
Keeping elbow straight, grasp one hand and slowly **bend wrist down** until stretch is felt.

D. Wrist Flexor Stretch
Keeping elbow straight, grasp one hand and slowly **bend wrist up** until stretch is felt.

MSK health can be maintained through daily stretching and strengthening exercises, proper nutrition, weight control, smoking cessation, and adequate sleep.

Elbow Pain - 28% of sonographers reported elbow pain



A. Triceps Kickback
Kneel over chair with one arm supporting body and the other parallel to the body. While grasping dumbbell extend arm until straight.

B. Bicep Curl
Hold resistance bands in each hand keeping arms straight and close to body. Bend elbows up to the chest.

C. Triceps Stretch
Raise arm overhead with elbow bent. Place hand on back as though reaching down spine. With opposite arm, gently push the arm back until stretch is felt.

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

CT

April Callahan

Nan Hermanns

Congratulations from Dr. Raptopoulos to **April Callahan** and **Nan Hermanns** for providing an excellent example that Image Lightly works. April and Nan followed our dose reduction protocol for a CTPA done on a pregnant patient at 1/3 of the usual CTPA dose… Images were noisy but adequate for diagnosis.

Kathy Sullivan

I had received a call from a patient who wanted to share both positive feedback and constructive feedback regarding her recent CT appointment. She unfortunately had a number of concerns but did take a moment to highlight **Kathy Sullivan** for stepping in, introducing herself in a professional manner and offering an explanation of what she wanted to do to obtain venous access. The patient had already been "stuck" a number of times and so she was pleased that Kathy demonstrated such a level of competency and skill and was able to access a vein for the CT. Great Job Kathy!

- Tim Parritt, CT mgr.

Patty Peters

Marie Alessandro

Carmelina Barletta

are all being recognized collectively by our senior staff. Patty for the attention to care she provides to our patients, Marie for her willingness to help out and strong technical skills and "magic fingers" Carmelina for outstand IV access skills.

Diagnostic Imaging

Sandro Vicente

Dydier Parisien

Joachin Thomas

stayed over 8/27 because of the approaching Tropical Storm Irene to ensure AM coverage.

Dr. Kevin McGuire (Spine Center) stated that **John Schembri** provides superior quality work and efficiency with spine exams in the OR. Dr. McGuire often pages John to see how late John is working when he is determining if he wants to add on a late OR case.

John Schembri

Nuclear Medcine

Patients love this "nice boy from Maine". **Aaron Thurston** enjoys people and he is able to find commonality with everyone of any age. He listens and he talks and he makes everyone feel comfortable. For all his patients Aaron turns a stressful, fearful situation into a positive experience. His kindness and thoughtfulness is extraordinary, his interpersonal skills are admirable, and his ability to connect with people is remarkable.

Dawn Federman (not shown) does all of the NucMed insurance pre-authorization work. In the past few years this work has grown into a massive effort with more and more NucMed studies being classified as high tech and therefore needing pre-authorization before they can be booked. Dawn communicates with referring physicians, their office staff and their patients, not to mention annoying insurance company voice mail. Although some of this communication can be frustrating, Dawn never lets that frustration show and is always friendly, polite, and professional.

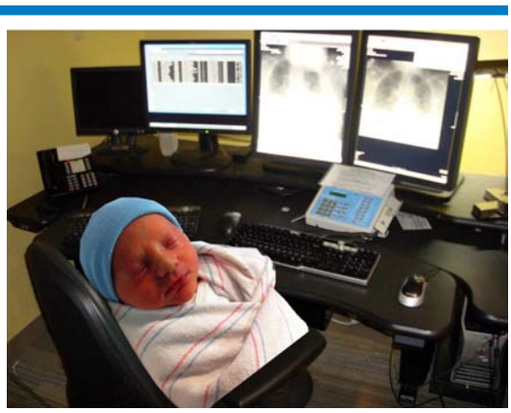
Do you know. . .Daniel Berkowitz?

Dear Radiology Colleagues,

Daniel Berkowitz joined the BIDMC radiology family at 0053 this morning. He arrived earlier than expected but he's a healthy 6 lb 7oz, 18in baby. Mom and son are both doing very well.

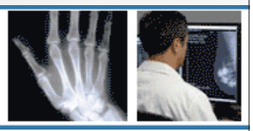
Since he will be spending many nights awake, we figured Daniel might help decompress the night float by reading some plain films (See right).

– Seth Berkowitz, 2nd yr Radiology resident and now "Dad"



Publication Call Outs: *Stroke Imaging*

The following article featuring Max Rosen is available on-line at RadiologyToday:



September 2011

Stroke Imaging
By Beth W. Orenstein
Radiology Today
Vol. 12 No. 9 P. 20

Researchers ask how MRI availability affects imaging exam orders.

Does the availability of imaging equipment play a role in what studies physicians order after a patient has a stroke? That's the question a study by Max P. Rosen, MD, MPH, a radiologist at Beth Israel Deaconess Medical Center in Boston, and colleagues attempted to answer.

Their study, published in the June issue of the ***Journal of the American College of Radiology***, compared the imaging of stroke patients at a hospital in the United States with those treated at a hospital in Canada, where access to MRI scanners is more limited, and concluded that capacity does indeed affect imaging utilization.

"There clearly was less frequent use of MRI scanning at hospitals with limited access to this modality," Rosen says.

The study also suggested that MRI imaging after a stroke led to better outcomes. "But this is where we can only infer," Rosen says, "because the study wasn't designed to measure these outcomes."

Rosen and Frank Levy, PhD, a study coauthor and economist who analyzed the data, say their results are preliminary and call for further investigation.

Robert DeLaPaz, MD, chair of the panel that wrote the ACR's appropriateness criteria for cerebrovascular, agrees the study is preliminary and points out that it has major flaws that raise questions about the validity of comparing the use of available technology in the two countries.

The flaws, he says, arise from the incomplete data about the patient population. DeLaPaz believes the researchers should have included the admitting diagnosis, the duration and severity of symptoms and signs on admission, the specific therapy used, and the timing of therapy and details of patient outcomes because "all … are important variables for evaluating the appropriate use of imaging technology."

The researchers did not look at the admitting diagnosis or when patients arrived at the hospital for treatment, DeLaPaz says, and imaging protocols differ depending on whether more than three (and possibly up to 4.5) hours have passed since the stroke onset. When stroke patients arrive at a hospital within three hours, current guidelines indicate they should quickly undergo a noncontrast CT scan to look for hemorrhage to help determine treatment but not delay treatment with additional imaging.

"If the scan shows there's no hemorrhage and no other contraindications are present, the patients can be treated with thrombolysis," explains DeLaPaz, a professor of radiology and director of neuroradiology at Columbia University Medical Center in New York.

After the initial three to 4.5 hours, treatment options are different, and more complex imaging is recommended to better characterize the tissue in and around the stroke zone, DeLaPaz says.

Check out the entire article at: http://www.radiologytoday.net/archive/rt0911p20.shtml

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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