

Chairman's Corner

by Donald P. Harrington, M.D., F.A.C.R.



It is hard to believe that time has passed so quickly this year, and the Department is about to embark on several new and exciting ventures. As most of you are aware, both MRI and CT studies are quickly becoming the imaging modality of choice, expanding the diagnostic imaging capabilities by imaging the body in new and informative ways. As you peruse through this issue, you will see that Radiology and Cardiology are collaborating in several initiatives. Cardiac MRI for non-invasive diagnostic studies is being performed to assist the cardiologists in their diagnosis and treatment of coronary artery disease. We are also utilizing CT technology for cardiac artery calcium evaluation as a screening technique to evaluate the amount of calcium buildup in the coronary arteries. This procedure is not currently reimbursed by insurance companies, but we are optimistic that this will change in the near future. Initially, insurance companies did not reimburse for virtual colonoscopy procedures when used as a screening tool; however, many insurance companies are considering revising their current policy. Presently, both screening studies can be performed here at the Radiology Department at University Hospital.

On the academic side, the newsletter reveals the research projects of our residents which were presented at the twenty-fifth Annual Radiology Research Seminar. Congratulations are in order for Dr. Paul Fisher, Chief of Breast Imaging and Director of the Radiology Third-year Medical Student Program on being named by the University as the recipient of the Aesculapius Award in recognition of his outstanding teaching contribution to the University.

One last item of interest is Stony Brook University Hospital installing the first 3 Telsa high-field strength clinical MRI imager in Suffolk County. The enhancement of diffusion studies, such as spectroscopy, fat suppression techniques, breast tumor detection and needle biopsies performed under MRI guidance are examples of 3 Tesla imaging. An improved signal to noise allows the scanner to be faster and with greater resolution. The slices are also thinner and of a higher matrix. This magnet will be operational in late fall and will be utilized for both clinical and research endeavors with a new valuable tool in disease detection. These are exciting and challenging times and Stony Brook Radiology in collaboration with Stony Brook University Hospital is at the forefront of the latest imaging techniques and modalities.

Donald P. Harrington MD

Twenty-Fifth Annual Radiology Seminar

The purpose of this program is to provide a forum for exchange of information and discussion about clinical and basic research in the areas of diagnostic radiology and other imaging modalities. Presentations were given by the following residents from the Department of Radiology, Stony Brook School of Medicine and Winthrop University Hospital, Mineola.

Felix Kravets, M.D.

Functional MRI Investigation of Limbic System Activation by Emotional Stimuli

University Hospital and Medical Center, Stony Brook, NY

Newrhee Kim, M.D.

National Survey of Radiology Residency Programs

Winthrop University Hospital, Mineola, NY

Jack Fields, M.D.

MRI Based Virtual Cystoscopy

University Hospital and Medical Center, Stony Brook, NY

Asante Dickson, M.D.

16-Channel Multislice CT Discography and Improved Visualization of Disc Pathology

Winthrop University Hospital, Mineola, NY

Robert Bernstein, M.D., Ph.D.

Characterization of MS Lesions by MRI

University Hospital and Medical Center, Stony Brook, NY

Alan Bennie, M.D.

Performance Evaluation of a Multi-Slice Stepping Gantry CT

University Hospital and Medical Center, Stony Brook, NY

Jean Delbrune, M.D.

Low Dose Lung CT as Early Lung Cancer Screen

University Hospital and Medical Center, Stony Brook, NY

THE RADIOLOGY LETTER

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RADIOLOGY LETTER

A Radiologist's Approach to Imaging Vistas • State University of New York at Stony Brook

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RADIOLOGY LETTER

A Radiologist's Approach to Imaging Vistas
Stony Brook University

CT Coronary Artery Calcium Screening

By Erica Posniak, M.D.

Assistant Professor of Clinical Radiology
Division of Cross-sectional Imaging

The Department of Radiology at Stony Brook University is pleased to announce that we are now providing CT Coronary Artery Calcium Screening. The examination is rapidly performed, requiring only minutes of scan time. It is extremely well tolerated by patients and is painless. Contrast material is not administered and the exam can, therefore, be performed in virtually any patient regardless of renal function.

Using our state-of-the-art, multislice CT scanner and advanced software, the coronary arteries can now be well visualized on CT and easily evaluated by our expert team. Each vessel is individually evaluated for its total calcium burden which is scored in two ways. Both the Agatston method and a volumetric method are utilized to obtain a calcium scan. Subsequently, a global cardiac calcium score is computer generated.

It has been shown that aggregate coronary artery calcium often reflects underlying soft plaque burden within the coronary arteries although not necessarily its exact location^{1,2}

The coronary artery calcium score can greatly aid in the prediction of future coronary events especially when considered in addition to traditional cardiac risk factors. Coronary artery calcium scoring offers the ability to

evaluate pre-clinical coronary artery disease which may be nonobstructive yet reflected by an overall high coronary artery calcium score. It has been shown that traditionally utilized stress tests may not be sensitive to nonobstructive or flow limiting coronary lesions. Such patients may also fall in a low-risk category if only traditional risks are evaluated and calcium scoring may alert health professionals as to clinical cardiac concern.

Coronary Artery Calcium Scoring is advocated as a screening exam to evaluate for sub clinical disease and allow for earlier evaluation of and intervention of coronary artery disease. In addition to its use as a screening tool and in patients with known cardiac risk factors, this exam should be considered in many other patient groups. Including but not limited to patients who are currently on statin therapy in order to evaluate for change in calcium scoring overtime reflecting the success of therapy. Patients with underlying diseases known to have an increased incidence of atherosclerotic disease and women with demonstrated extra cardiac vascular calcification as seen on other modalities including mammography may also benefit, allowing for earlier workups and additional evaluations³.

For more information on this examination, please feel free to contact Dr. Erica Posniak at (631) 444-8193. To schedule a CT Coronary Calcium Screening exam, please contact Dr. Paola Carvelli or Dawn at 444-1022.

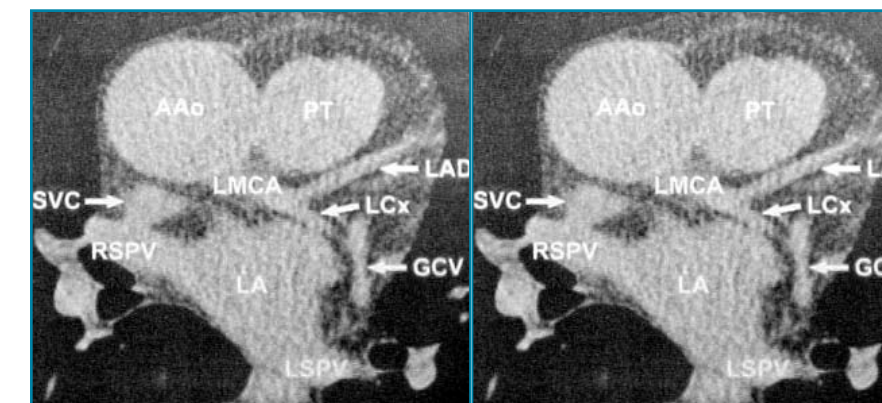


Figure 1: Image of the coronary arteries on a noncontrast CT scan. There is no significant coronary artery calcification. LMCA (left main coronary artery), LAD (left anterior descending artery, LCx (left circumflex coronary artery)⁴

Figure 2: CT scan demonstrates calcified coronary arteries. LAD (left anterior descending), LCx (left circumflex), LMCA (left main coronary artery)⁴

- 1 Girshman and Wolff. Techniques for Quantifying Coronary Artery Calcification Seminars US/CT/MR, Vol 24 (1) 2003, pg 33-38.
- 2 Rumberger, Simmons et al. Circulation 92:2157-2162, 1995.
- 3 Pecchi A. et al. Association of Breast Arterial Calcification and coronary artery calcifications quantified by multi-slice CT in a population of post-menopausal women. Radiol Med, 2003, Oct.106(4):305-12.
- 4 Sevrukov, et al, Electron Beam CT of the Coronary Arteries AJR:177, Dec. 2001.

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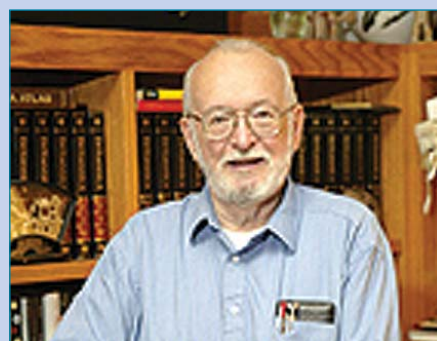
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Dr. Paul Fisher has been presented with the Aesculapius Award in May 2004 for recognition of outstanding teaching.



Paul C. Lauterbur, Ph.D., winner of the 2003 Nobel prize in Physiology or Medicine for his pioneering work concerning Magnetic Resonance Imaging gave a lecture as part of the President's Lecture Series on "To There and Back Again: Adventures from Molecules to Man and Back".



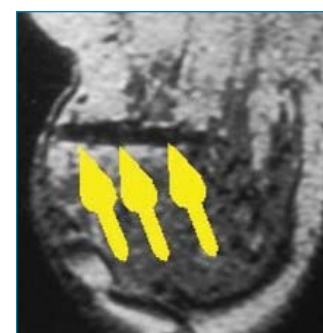
Congratulations Veronica and Punit Aghera who wed on September 5, 2004.

MRI Guided Core Biopsy at Stony Brook—Another First!

By Paul R. Fisher, M.D.
Director, Breast Imaging

As another example of regional leadership in Breast Imaging, physicians at the Carol Baldwin Breast Center of University Hospital at Stony Brook recently performed two MRI guided core biopsies, the first in this region. Breast MRI is more sensitive in finding breast cancer than the other typical modalities, such as mammography and ultrasound. However, until recently the biopsy options for lesions found on Breast MRI have been limited to surgery or observing the lesion over time. In a technique first described by radiologists at Memorial Sloan-Kettering Hospital, a 10-gauge needle is introduced into the lesion while the patient is in the MRI magnet, and after its position is confirmed, a small sample of tissue is obtained. This is less expensive, faster, and less painful than surgical biopsy, and it leads to less scarring (which itself can hide a cancer). The Carol Baldwin Breast Center also led the way with digital mammography (the first in an academic center in New York State), computer-aided detection (first on Long Island), and MRI computer-aided detection (first in the region).

On September 14, a groundbreaking ceremony was held for the new Ambulatory Care Pavilion, which will include the Carol Baldwin Breast Care Center and a new state-of-the-art outpatient imaging center. The Cancer Center will occupy the 2nd level of this Pavilion. When the new Center opens in 2006, we will have three MRI magnets (including an open MRI). By being adjacent to the Baldwin Breast Care Center, one of these MRIs will be available for the Breast Care Center patients.



A Breast MRI with a biopsy needle sheath in place. Once the location of the sheath is established, a core biopsy can be safely performed.

NEW FACULTY



William Moore, M.D. joined the faculty staff as an Assistant Professor of Clinical Radiology in the Division of Diagnostic Radiology and is Chief of Thoracic

Imaging. Dr. Moore received his medical degree from the Albany Medical College in Albany, New York, followed by an Internal Medicine Internship in Albany, a Diagnostic Radiology Residency at Stony Brook and a Thoracic Radiology fellowship at the New York University in New York City. Dr. Moore is Board Certified in Diagnostic Radiology. He is a member of the American Board of Radiology, American College of Radiology, American Medical Association, New York State Medical Society, Radiological Society of North America and Society of Thoracic Radiology.



Iakovos Koutras, M.D. received his medical degree at New York University School of Medicine in New York, New York, completed a one-year Internal Medicine internship at Bellevue Hospital

Center, New York, New York and is a first-year Radiology resident at the University Medical Center at Stony Brook.



Vaibhav Mangrulkar, M.D. received his medical degree at the UMDNJ - Robert Wood Johnson Medical School in Piscataway, New Jersey, completed a Transitional internship at Saint Barnabas Medical

Center in Livingston, New Jersey and is a first-year Radiology resident at the University Medical Center at Stony Brook.



Anna Elissa Nidecker, M.D. received her medical degree at the Albany Medical College in Albany, New York, completed a Preliminary Medicine internship at the University of Washington, Seattle and is a first-year

Radiology resident at the University Medical Center at Stony Brook.



Adina Sonners, M.D. received her medical degree at the Robert Johnson Medical School in Camden, New Jersey, completed a Preliminary Medicine internship at the Jersey University Medical

Center and is a first-year Radiology resident at the University Medical Center at Stony Brook.

NEW RESIDENTS AND FELLOWS

Residents



Ekta Gupta, M.D. received her medical degree at SUNY Stony Brook, completed a one-year Internal Medicine internship at North Shore University Hospital in

Manhasset, New York and is a first-year Radiology resident at the University Medical Center at Stony Brook.

Fellows

Punit Aghera, M.D. completed a four-year Radiology residency at SUNY Stony Brook in July and has stayed on as a Neuroradiology fellow.



Kevin Klayman, D.O. is a fellow in the Abdominal Radiology (Cross-sectional Imaging) Division. He received his medical degree at the New York College of Osteopathic

Medicine in Old Westbury, New York and completed his Radiology residency at the Nassau County Medical Center in East Meadow, New York.



Ron Mark, M.D. is a MRI Research fellow. He received his medical degree at the Universidad Autonoma De Guadalajara School of Medicine in Guadalajara,

Mexico and completed his Radiology residency at the Bridgeport Hospital in Bridgeport, Connecticut.



Paulito Tactacan, M.D. is a fellow in the Angiography and Interventional Division. He received his medical degree from the Far Eastern University in Quezon City,

Philippines and completed his Radiology residency at the St. Lukes Medical Center in Quezon City, Philippines.

Residency and Fellow Graduation Dinner

The Residency Graduation Dinner was held on June 17, 2004 at the Port Jefferson Country Club in Port Jefferson. The event was sponsored by Fuji Medical Systems, U.S.A., Inc. Fuji Executives John Weber, Senior Vice President of Operations, Paul Genovese, Senior Vice President Sales, and Tony Brady, Account Manager were present. It was good to see Dr. Harold Atkins and former alumni Drs. Jayne Bernier, Harold Parnes and Maryanna Mason. Congratulations to Punit Aghera, M.D., Robert Ashton, M.D., Ph.D., Jean Delbrune, M.D., and William Moore, M.D. in completing their four year Radiology Residency Program.

Govindarajan Narayanan, M.D. completed a Special Procedures fellowship, Rita Ratani, M.D. completed an Abdominal Radiology fellowship, and Ann Rose Thomas, M.D. completed an MRI fellowship.

It is not surprising that Dr. Paul Fisher was the recipient of the "Teacher of the Year Award". He also received the "Teacher of the Year Award" in 2000, 2002 and 2003. Dr. Ferretti's "Unknown Case Contest" was won by Alan Bennie, M.D. who received a textbook of his choice. Dr. Robert Bernstein received the "Roentgen Resident/Fellow Research Award" (RSNA Research and Educational Fund) for his accomplishments in radiological investigation.

Many thanks to Dr. Steven Perlmutter, Director of the Residency Program, and Linda Erickson, Coordinator of the Residency Program for their efforts. Also, many thanks to the faculty and support staff for their hard work and dedication.



Graduating Radiology residents Punit Aghera, M.D., Robert Ashton, M.D., Ph.D., William Moore, M.D., Steven Perlmutter, M.D., Director of the Residency Program and Donald Harrington, M.D., Chairman (left to right)



John Ferretti, M.D., (left) and Donald P. Harrington, M.D. congratulate Govindarajan Narayanan, M.D. (middle) in completing his Special Procedures and Interventional fellowship



Harold Cohen, M.D. (left), Donald P. Harrington, M.D. congratulate Rita Ratani, M.D. (center) in completing her Body Imaging Fellowship



William Moore, M.D., Punit Aghera, M.D. and Donald P. Harrington, M.D. congratulate Paul Fisher, M.D. Teacher of the Year Award recipient