June 2008 • Volume 18, Number 6

RSNA News

Image courtesy of the University of Tennessee Space Institute/Sharma Rafford

Technological Advances Improve Mammography Speed and Accuracy

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- Multispecialty Collaboration Seen as Key to Radiology's Future
- Science is Art in New *RadioGraphics* Feature
- Web-based Portfolio Helps Residents Chart Their Progress

RSNA 2008 Course Enrollment Begins June 30

JUNE 2008

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Distinguished Honorees and Lecturers

RSNA2008
Personal Learning in the Global Community

THE RSNA Board of Directors has announced the distinguished honorees and lecturers to whom the Society will pay tribute at the 94th Scientific Assembly and Annual Meeting. They are:

GOLD MEDALISTS

Peggy J. Fritzsche, M.D.
Redlands, Calif.

Anthony V. Proto, M.D.
Richmond, Va.

Lee F. Rogers, M.D.
Tucson, Ariz.

HONORARY MEMBERS

Jian-Ping Dai, M.D.
Beijing

Maximilian F. Reiser, M.D.
Munich, Germany

Gustav von Schulthess, M.D., Ph.D.
Zurich, Switzerland

■ *Detailed information about each of these honorees and presenters will be published in future editions of* RSNA News.

ANNUAL ORATION IN DIAGNOSTIC RADIOLOGY

CT Colonography: Achievements and Challenges

Elizabeth G. McFarland, M.D.
Chesterfield, Mo.

EUGENE P. PENDERGRASS NEW HORIZONS LECTURE

Nanotechnology in the Future of Imaging: Prospects and Pitfalls

Michael J. Welch, Ph.D.
St. Louis

ANNUAL ORATION IN RADIATION ONCOLOGY

Alchemy, Early Detection, Precision Guidance and Radiotherapy

Minesh P. Mehta, M.D.
Madison, Wis.

RSNA/AAPM Modules to Focus on Science of Imaging

RSNA and the American Association of Physicists in Medicine (AAPM) are developing 50 Web-based instructional modules on the basic science underlying imaging. Radiology residents and practicing radiologists will be able to use these self-guided, interactive modules to educate themselves about the physics concepts identified as critical to modern radiology in an AAPM-developed, standardized curriculum that has been endorsed by the Association of Program Directors in Radiology. The modules will be produced in two phases, with clinical modules created first. Each module will be developed by a team of at least one physicist and one radiologist.

A request for proposals (RFP) to develop educational content for the modules will be released early this month, with a response deadline of July 15. The RFP will be available at *RSNA.org/physics* and through AAPM.

MEDICAL IMAGING COMPANY NEWS

Bracco Acquires E-Z-EM

■ Bracco Diagnostics, of Princeton, N.J., has acquired E-Z-EM, Inc., of Lake Success, N.Y. E-Z-EM is a major manufacturer of contrast agents, including VoLumen®, and also manufactures the Empower® family of CT injectors for gastrointestinal radiology. Bracco offers contrast agents and solutions for X-ray, CT, nuclear medicine and MR imaging.

RSNA 2008 Associated Sciences Program

THE Associated Sciences Consortium has announced the topics for its refresher course series at RSNA 2008. Ten refresher courses will be held Monday, Tuesday and Wednesday.

For more information about RSNA 2008, go to *RSNA2008.RSNA.org* and click Advance Registration. Course enrollment begins June 30.

RSNA2008
Personal Learning in the Global Community

MONDAY – DECEMBER 1
- Radiation Dose: Are We at Crisis? —Protecting Our Personnel
- Radiation Dose: Are We at Crisis? —Protecting Our Patients
- Preventing Radiology Errors
- Fusion Imaging

TUESDAY – DECEMBER 2
- Why Imaging Network Deployments Are Behind Our Non-Healthcare IT Brethren
- Design That Makes a Difference: Solutions for Today's Radiology Environment
- Radiology's Role: When Disaster Strikes!
- Satisfying Our Diverse Patient Needs: Unique Like Everyone Else

WEDNESDAY – DECEMBER 3
- Imaging in the Operating Room
- Current Regulatory Impacts on Compliance

The Associated Sciences Consortium comprises the American Healthcare Radiology Administrators (AHRA), American Institute of Architects–Academy on Architecture for Health (AIA-AAH), American Radiological Nurses Association (ARNA), American Society of Radiologic Technologists (ASRT®), Association of Educators in Imaging and Radiologic Sciences, Inc. (AEIRS), Association of Vascular and Interventional Radiographers (AVIR), Canadian Association of Medical Radiation Technologists (CAMRT), International Society of Radiographers and Radiological Technologists (ISRRT), Radiology Business Management Association (RBMA), Section for Magnetic Resonance Technologists (SMRT-ISMRM) and the SNM—Technologists Section (SNM-TS).

RSNA Lends Expertise to Cancer Imaging Book

RSNA has been acknowledged for its contributions to the newly published *Quantitative Imaging Tools for Lung Cancer Drug Assessment.* RSNA helped provide peer review for clinically oriented articles. The book, authored by James L. Mulshine, M.D., and Thomas M. Baer, Ph.D., was released in April.

IMAGING TECHNOLOGY

Fact of the Month

Patients receiving therapeutic doses of radionuclides may be an exposure risk to those near them and/or a source of radioactive contamination. How long the patient is a hazard depends on the radionuclide and its administration, as well as who may be in close contact with the patient.

American Association of Physicists in Medicine

Levitt Honored by American Cancer Society

The Minnesota Region of the American Cancer Society (ACS) has honored 1999 RSNA President **Seymour H. Levitt, M.D.,** in the region's new Hope Lodge.

ACS volunteers sought a way to honor Dr. Levitt, a fellow volunteer and professor in the Department of Therapeutic Radiology at the University of Minnesota, and placed his portrait in the entrance of the Hope Lodge that opened in April in Minneapolis. ACS offers Hope Lodges in various parts of the country as free, temporary housing facilities for people with cancer who are undergoing treatment.

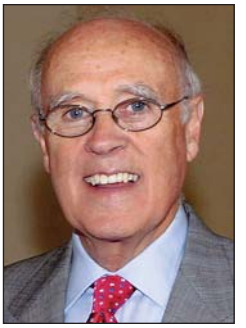
Seymour H. Levitt, M.D.

Fritzsche is Distinguished Loma Linda Alum

2003 RSNA President **Peggy J. Fritzsche, M.D.,** was recently named Alumnus of the Year by Loma Linda University in Loma Linda, Calif. Dr. Fritzsche has served as a professor of radiology at Loma Linda since 1986. From 1991 to 2004, she served as medical director of Riverside MRI Center in Riverside, Calif.

Dr. Fritzsche will receive the RSNA gold medal at RSNA 2008 (see Page 1).

ARRS Awards Gold Medals


Eric J. Hall, D.Phil., D.Sc.


Christopher R.B. Merritt, M.D.


Robert J. Stanley, M.D.

The American Roentgen Ray Society (ARRS) has awarded its gold medals to **Eric J. Hall, D.Phil., D.Sc., Christopher R.B. Merritt, M.D.,** and **Robert J. Stanley, M.D.** Dr. Hall, also honored earlier this year with the gold medal of the American College of Radiology, is director of the Center for Radiological Research at the College of Physicians & Surgeons of Columbia University in New York. He is also the Higgins Professor of Radiation Biophysics and a professor of radiation oncology and radiology at Columbia and radiation biologist at The Presbyterian Hospital of New York. He was an RSNA Outstanding Researcher in 1996.

Dr. Merritt is a professor and vice-chair in the Department of Radiology at Thomas Jefferson University in Philadelphia. Dr. Stanley will retire as editor of the *American Journal of Roentgenology* in June after having served in the position since 2003.

Anderson Receives Chicago Radiological Society Award


Thomas M. Anderson, M.D.

Thomas M. Anderson, M.D., has received the gold medal of the Chicago Radiological Society. The medal recognizes Dr. Anderson's years of service to diagnostic radiology as well as his leadership in state and national organizations.

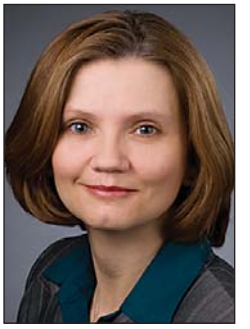
A musculoskeletal radiologist, Dr. Anderson was chair of the Department of Radiology at Mercy Hospital and Medical Center in Chicago from 1982 to 2002 and continues to serve as a consulting radiologist. He is also a senior attending radiologist for Radiological Physicians, Ltd. in Chicago and a clinical assistant professor of radiology at the University of Illinois at Chicago.

Song Receives Korean Honors


Ho-Young Song, M.D.

The Korean Ministry of Knowledge and Science has named **Ho-Young Song, M.D.,** as one of four recipients of its 2008 Most Distinguished Scientist awards. Dr. Song, a professor in the Department of Diagnostic Radiology at the University of Ulsan, also was recently selected by the Korea Medical Association (KMA) to receive an award the organization created to celebrate its 100th anniversary this year. The KMA award acknowledges Dr. Song's "career-long research and development of medical tools, encouraging new generations to come."

Fifield to Head CAR


Adele Fifield

Adele Fifield has been appointed the chief executive officer of the Canadian Association of Radiologists. With 20 years in association management, Fifield most recently served as director of the War Amps National Amputee Centre, which educates Canadian amputees, their families and the public on all aspects of amputation. Fifield was made a member of the Order of Ontario in 2005 for her advocacy for Canadian amputees and veterans in Ontario.

CAR recently moved its headquarters to Ottawa, Ontario.

Hatch is UTMB Endowed Radiation Oncology Chair

Sandra S. Hatch, M.D., is the inaugural holder of the Irma Labardini Mendoza and Jesse Jesus Mendoza Chair in Radiation Oncology at the University of Texas Medical Branch (UTMB) in Galveston.

Dr. Hatch, who has been Irma Mendoza's physician for 10 years, is the vice-chair of the Department of Radiation Oncology and director of clinical operations and directs UTMB's radiation oncology residency program and multidisciplinary breast cancer program. She also holds the Ruth Levy Kempner Professorship in Radiation Oncology.

In August 2007, the Mendozas contributed $500,000 to establish the endowed chair, which will support the advancement of radiation therapy to treat patients with breast and gynecologic cancers.

Sandra S. Hatch, M.D.

RSNA News Send news about yourself, a colleague or your department to *rsnanews@rsna.org*, 1-630-571-7837 fax, or *RSNA News*, 820 Jorie Blvd., Oak Brook, IL 60523. Please include your full name and telephone number. You may also include a non-returnable color photo, 3x5 or larger, or electronic photo in high-resolution (300 dpi or higher) TIFF or JPEG format (not embedded in a document). *RSNA News* maintains the right to accept information for print based on membership status, newsworthiness and available print space.

MY TURN

Teamwork a Must for Improving Quality in Radiology Practice

Teamwork is the ability to work together toward a common vision. It is the fuel that allows common people to attain uncommon results.
—Andrew Carnegie

QUALITY IMPROVEMENT (QI) has been described as the continuous effort by everyone in healthcare to make changes that lead to better patient outcomes, enhanced system performance and professional development. For radiology, this means not only doing our own work, but also finding time to work with others to improve our practice—case in point, we present this column not as "My Turn," but as "Our Turn."

My Turn
ONE RADIOLOGIST'S VIEW

Working together takes the form of peer collaboration on patient care as well as participation in quality teams established to evaluate the services we provide. Those who use our services are also part of the team and we must seek their input as well.

One quality team of which we are particularly proud is the RSNA Quality Improvement Committee (QIC) that we lead. Among its accomplishments are a compilation of information on QI methods, tools and projects from external organizations and agencies, the QI Roundtable in Radiology and a course on QI concepts, challenges and methods. Work continues on an online program to help individuals and teams create QI projects, as well as templates for structured radiology reports and a process to communicate critical test results.

Stephen J. Swensen, M.D., M.M.M.

C. Daniel Johnson, M.D., M.M.M.

At RSNA 2008, QIC will offer for the second year its daylong course focusing on individual and team-based QI projects. The committee will also co-sponsor with the RSNA Radiology Informatics Committee a course on using information technology to improve quality and safety in radiology. Several quality roundtable sessions will also be convened during RSNA 2008.

Be sure to check out *RSNA.org/quality*, a dynamic source for information and resources on quality improvement in radiology—an endeavor that we are all in together.

Stephen J. Swensen, M.D., M.M.M., chairs the RSNA Quality Improvement Committee (QIC). He is director for quality and safety at the Mayo Clinic in Rochester, Minn.

C. Daniel Johnson, M.D., M.M.M., is QIC vice-chair. He is a professor and chair of radiology at the Mayo Clinic in Scottsdale, Ariz.

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Developed jointly by the Radiological Society of North America and the American College of Radiology

Technological Advances Improve Mammography Speed and Accuracy

RECENT STUDIES of cone-beam CT in breast imaging and a new type of computed radiography (CR) offer the promise of faster, safer and potentially more accurate mammography.

Wei-Tse Yang, M.D.
The University of Texas M.D. Anderson Cancer Center

Rick Lubinsky, Ph.D.
Stony Brook University

Cone-Beam CT Offers Excellent Contrast with Reduced Exam Time

Researchers at The University of Texas M.D. Anderson Cancer Center in Houston investigated the feasibility of diagnostic breast imaging using a flat-panel detector CT system.

Using cone-beam CT on 12 mastectomy specimens, the researchers found that the images have exceptional tissue contrast and can potentially reduce examination time with comparable radiation dose. Results of the study were published in the December 2007 issue of the *American Journal of Roentgenology.*

"It is an extremely new and exciting technique," said lead author Wei-Tse Yang, M.D., an associate professor of radiology and chief of the Breast Imaging Section. Cone-beam CT breast imaging is different than the technique used for whole-body CT, she said.

"Instead of the patient moving through a gantry—which is what happens in routine CT of the chest, abdomen and pelvis—the cone-beam CT device makes a single rotation around the breast," she said. "We can keep the radiation dose down and the study can be completed in a very short time, within 17 seconds."

Dr. Yang added that cone-beam CT eliminates the compression associated with routine mammography, which is at best uncomfortable but can be painful for some women.

> *What we're hoping to come up with is a system that not only achieves really high-resolution radiographic image quality, but also does so in an inexpensive way.*
>
> Rick Lubinsky, Ph.D.

With cone-beam CT, the patient lies prone with the breast in a dependent position through a gap in the table. The position is somewhat similar to that of MR breast imaging, however the 17-second acquisition time is a huge advantage over the 30 and 40 minutes MR requires. "If you're looking at someone elderly or with a pre-morbid medical condition, it might be difficult to stay still for 40 minutes," said Dr. Yang. "That has an adverse impact on image quality."

Dr. Yang, Chris Shaw, Ph.D., a professor of Medical Physics at The University of Texas M.D. Anderson Cancer Center and colleagues also found that structured noise on cone-beam CT was minimal due to the absence of overlapping tissue. Breast anatomy was well resolved and microcalcifications within cancers clearly shown.

"Cone-beam CT has significant potential advantages," Dr. Yang said. "I think it's something that's going to be very attractive and therefore, the onus is on investigators to prove equivalence and down the line, objective benefit as compared to conventional breast imaging methods."

CR System Affordably Improves Resolution

A transparent glass-ceramic plate that could make CR mammography more detailed and less expensive is the centerpiece of a new storage phosphor CR system developed by U.S. and German scientists.

"The use of such a screen with storage phosphor-based CR is not a new idea," said Rick Lubinsky, Ph.D., an assistant professor of research radiology at Stony Brook University in Stony Brook, N.Y. "It's more like something

people have been wishing they could do for many years."

Dr. Lubinsky collaborated with materials scientist Jacqueline A. Johnson, Ph.D., of Argonne National Laboratory near Chicago and Stefan Schweizer, Ph.D., of the University of Paderborn, Germany, to develop the ultra-high resolution mammography system.

"I think the edge that we have is in resolution," said Dr. Johnson, who holds a joint appointment with the University of Tennessee Space Institute. "The reason is that our plate is transparent."

Dr. Lubinsky explained how the system differs from conventional mammography. "In film screen or even nowadays with digital radiography based on phosphors, X-rays enter the breast, encounter the phosphors, make light and the light scatters around before either going to an electronic detector or exposing the film," he said. "As a result, you get the scattering or spreading of the light, which translates into a blurred image and loss of resolution.

"In the transparent material, X-rays are absorbed and a stored image is created, then you come along with a laser and read that stored image out," Dr. Lubinsky continued. "There is no light scattering, so the spatial resolution is extremely high."

Early tests produced resolution down to 17 microns, said Dr. Johnson, adding that the system is also a lot less costly than current technology.

"It's just a piece of glass, so it can be any shape or size," she said. "The real top-notch mammography systems right now are selenium. Selenium has a resolution of about 70 microns, but it's very expensive because each plate requires a dedicated readout. Ours does not. Our system is a storage phosphor, so physicians can retrofit what they have already in a film screen device and need just one readout system."

The researchers recently received a grant from the National Institutes of Health (NIH) to continue the project.

ON THE COVER
Jacqueline A. Johnson, Ph.D., is collaborating with Rick Lubinsky, Ph.D., and Stefan Schweizer, Ph.D., to develop a ultra-high resolution mammography system. The system uses a transparent glass-ceramic plate, which absorbs X-rays and stores an image that can be read out with a laser. Spatial resolution is improved by eliminating the light scattering that occurs with conventional mammography. Here, Dr. Johnson prepares to make a glass plate by weighing and mixing the constituent powders and chemicals that will be placed in the furnace.
Image courtesy of the University of Tennessee Space Institute/Shanna Relford

"We're going to scale up this plate and maximize its properties to be better than it is now," said Dr. Johnson.

"What I'll do is build a little laser scanner in which we can test these materials and learn things that we need to learn in order to make a full-scale, clinical prototype system," Dr. Lubinsky added.

The researchers estimated it could be more than five years before the technology is ready for clinical use. They hope the system will eventually prove attractive to smaller hospitals and radiology groups that cannot afford more costly digital radiography systems.

"What we're hoping to come up with is a system that not only achieves really high-resolution radiographic image quality, but also does so in an inexpensive way," said Dr. Lubinsky.

Learn More
More information about the studies discussed in this article is available online:

- "Dedicated Cone-Beam Breast CT: Feasibility Study with Surgical Mastectomy Specimens," published in the December 2007 issue of the *American Journal of Roentgenology*
  www.ajronline.org/cgi/content/abstract/189/6/1312
- "A Glass-Ceramic Plate for Mammography," published in the March 2007 issue of the *Journal of the American Ceramic Society*
  www.blackwell-synergy.com/doi/abs/10.1111/j.1551-2916.2007.01488.x

Noninvasive Imaging Method Can Help Predict Osteoarthritis

A new, noninvasive imaging method for early diagnosis of osteoarthritis and intervertebral disc degeneration capitalizes on the properties of a cartilage building block, using it as an inherent contrast agent.

Loss of the building block glycosaminoglycan (GAG) typically marks the onset of osteoarthritis, which affects at least 20 million Americans.

Mapping the GAG concentration in vivo with chemical exchange saturation transfer—a method researchers call gagCEST—can help predict who is likely to get the disease in the next five years, said Ravinder R. Regatte, Ph.D., an assistant professor in the Department of Radiology at New York University (NYU) Langone Medical Center.

"If we can measure the early biochemical—GAG—changes before morphological changes occur, then we can provide these people with drugs to balance the biochemicals to prevent arthritis from developing," said Dr. Regatte, an author of a paper that appeared in the Feb. 19, 2008, issue of the *Proceedings of the National Academy of Sciences.* "Right now conventional radiographs are used to measure this disease progression and you can't see soft tissue clearly on the films," he said. "If there are any defects, you can't see them and you can't tell how much is actually lost."

Other GAG-monitoring techniques are based on MR imaging and either cannot directly map GAG concentrations or require administration of exogenous contrast agents, according to NYU chemistry professor Alexej Jerschow, Ph.D., another researcher on the study. NYU scientists worked with colleagues at Tel Aviv University in Israel.

"The current methods are not very specific about giving early warning signs—you want to have biochemical markers that tell you early that there is a chance that there will later be some dysfunction of a joint," said Dr. Jerschow. "If you can avoid administering a contrast agent, that is always better. The method we developed does not require one. It's relatively quick as well—maybe 10 minutes."

Alexej Jerschow, Ph.D.
New York University

Ravinder R. Regatte, Ph.D.
New York University

Method Uses Inherent Contrast

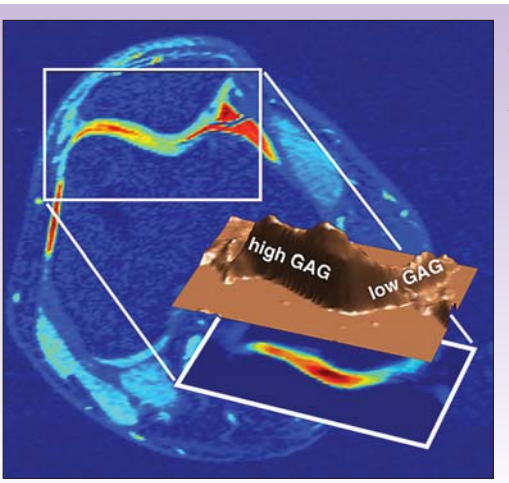
The new method doesn't require a contrast agent because it uses molecules and mechanisms that are already in the body. Knowing that GAG molecules have proton groups that are not tethered tightly, the researchers looked at whether proton exchange in the GAGs would allow GAG concentrations to be measured by MR imaging. The researchers investigated whether the GAG protons would become a natural contrast agent as they are separated from those of water during the process of chemical saturation.

Testing in tissue samples indicated that GAG protons indeed offered a type of contrast enhancement that allowed them to monitor GAGs through an MR scanner, said Dr. Jerschow. "We started with animal samples and since the method does not require an agent, we should be able to move quickly into practical application," he said. "The response from the musculoskeletal researchers and the imaging community has been very good and we see even more potential for this in the intervertebral disc, because conventional contrast agents are even less

> *The response from the musculoskeletal researchers and the imaging community has been very good and we see even more potential for this in the intervertebral disc, because conventional contrast agents are even less useful in the disc.*
>
> **Alexej Jerschow, Ph.D.**

useful in the disc."

At work on the study for nearly a year, the researchers maintain their method can not only diagnose and monitor disease but also help determine the efficacy of drug therapies. The next step in their study, they said, is to look at patients with different degrees of osteoarthritis and intervertebral disc degeneration. "For example, people who have undergone surgery," said Dr. Jerschow. "Samples have been histologically simplified and we will compare our indicators with other indicators of degeneration."



MRI of the knee. The measured glycosaminoglycan (GAG) concentration is indicative of the intactness of cartilage tissue.
Image courtesy of New York University.

Ongoing multicenter trials as a part of the Osteoarthritis Initiative funded by the National Institutes of Health will acquire longitudinal MR imaging data from more than 4,000 human subjects in the next five years, said Dr. Regatte. These studies aim to specifically identify sensitive imaging biomarkers to distinguish knee osteoarthritis progression versus incidental osteoarthritis. Although the current imaging protocols are limited to conventional radiographs and morphology of cartilage, Dr. Regatte hopes gagCEST will be among the potential biochemical imaging methods used in the near future.

Dr. Regatte noted that gagCEST again offers an advantage over other biochemical imaging methods—sodium MR imaging, T1rho MR imaging and dGEMRIC (delayed gadolinium-enhanced MR imaging of cartilage)—that require use of exogenous contrast agents. He added, however, some more basic validations need to be performed before incorporating gagCEST into routine clinical scans."We can already do it today on humans," Dr. Jerschow said. "The only issue is that at this point we are not 100 percent sure it is a more useful technique than what is already out there, but the preliminary findings are highly promising."

Learn More

- "Assessment of glycosaminoglycan concentration in vivo by chemical exchange-dependent saturation transfer (gagCEST)," published in the Feb. 19, 2008, issue of the *Proceedings of the National Academy of Sciences,* is available online at *www.pnas.org/cgi/content/abstract/105/7/2266.*
- For more information about the Osteoarthritis Initiative of the National Institutes of Health, go to *www.oai.ucsf.edu.*

Essentials of Radiology at RSNA 2008

"Essentials of Musculoskeletal Imaging" kicks off the Essentials of Radiology multisession course at RSNA 2008. Covered will be joint MR imaging and imaging joint replacement.

Essentials of Radiology is a concentrated, 2-day series of eight refresher courses designed especially for generalists and trainees. Course topics vary from year to year—at right is a cardiac session offered at RSNA 2004.

Other RSNA 2008 Essentials of Radiology sessions will cover cardiac CT and MR imaging, neuroimaging and pediatric, genitourinary/gynecologic, trauma, abdominal and thoracic vascular imaging. Registration for Essentials of Radiology and all RSNA 2008 courses begins June 30. For more information, go to *RSNA2008.RSNA.org.*

RSNA2008
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94th Scientific Assembly and Annual Meeting
November 30–December 5, 2008
McCormick Place, Chicago

Multispecialty Collaboration Seen as Key to Radiology's Future

COLLABORATION with other medical specialties—on the bench and in the clinic—is the best way to ensure radiology's continued important role in medicine, said radiology leaders.

"I don't think we can afford not to collaborate," said Kerry M. Link, M.D., professor of radiologic sciences at the Wake Forest School of Medicine in Winston-Salem, N.C. Dr. Link also serves as director of the Center for Biomolecular Imaging at Wake Forest, where various specialties work side by side to conduct basic imaging science research and animal, human and translational research using an array of imaging equipment.

Collaboration is a buzzword, popping up at medical meetings and in journals as well as in articles by the mainstream press. As the idea of cross-specialty teams in medical centers and research facilities gains popularity, discussions at professional meetings center on the radiologist's place in these partnerships. Of particular emphasis has been increasing radiologists' collaboration as a way to obtain and maintain a higher profile in the changing world of medicine.

Elias A. Zerhouni, M.D., director of the National Institutes of Health (NIH), said radiologists are uniquely suited for a collaborative role. "Radiology is inherently interdisciplinary, whereas other science fields are inherently monodisciplinary," said Dr. Zerhouni, delivering the New Horizons Lecture, "Major Trends in the Imaging Sciences," at RSNA 2007. "The radiologist really deals with all diseases, all actors within the healthcare system and understands them. For radiologists to succeed, they have to break barriers, break silos."

Collaboration will be particularly important, said Dr. Zerhouni, as medicine continues to shift from a curative model to a pre-emptive one. About 80 percent of the country's healthcare expenditures are now related to chronic rather than acute illness, Dr. Zerhouni said.

Kerry M. Link, M.D.
Wake Forest University

Daniel C. Sullivan, M.D.
RSNA Science Advisor

Partnership Starts in the Lab

As research is conducted more and more by cross-specialty teams, RSNA is a key part of an initiative training the multidisciplinary groups. Under Dr. Zerhouni's leadership, NIH has established a nationwide research consortium led by the National Center for Research Resources and funded by the Clinical and Translational Science Awards (CTSA). Announcing the expansion of the consortium from 12 centers to 24 last September, Dr. Zerhouni noted, "Through collaboration and leadership, these sites are serving as discovery engines that can rapidly translate research into prevention strategies and clinical treatments for the people who need them."

RSNA Science Advisor Daniel C. Sullivan, M.D., helps coordinate radiology's role in the consortium. "Imaging has become so complicated now, so complex, that any one group by themselves won't have the expertise or knowledge needed to develop methods that can get the kind of biochemical or even functional anatomic information that physicians need," he said.

> *Due to manpower issues radiologists are becoming isolated from the interface with colleagues and the result is people take our efforts for granted.*
>
> **Kerry M. Link, M.D.**

"We need to have radiologists involved with their clinical knowledge," Dr. Sullivan continued. "We need to have computer scientists involved who understand how to extract information from images, particularly in a quantitative way. We need to have bioengineers involved who can improve the imaging methodologies to get better spatial resolution or better

contrast resolution. We need biostatisticians involved to help develop rigorous clinical trials or experimental methodologies so we know the results are valid."

Clinical Collaboration Also Important

Physician educators, meanwhile, are working to bring the theory of multidisciplinary practice and professional collaboration into the day-to-day activities of radiology centers around the nation. The ideas they develop and what they teach younger physicians are different depending on the culture and mandate of each facility; however, there are common strategies and a common need to change the radiology service delivery system, said Dr. Link.

"We're training new generations of people in specialties other than radiology who never see a radiologist because they review films on a PACS station on the floor," said Dr. Link, who serves on the *RSNA News* Editorial Board. "The turnaround time for a report is very good. Other physicians read the radiology report, but who gave them that report? Due to manpower issues radiologists are becoming isolated from the interface with colleagues and the result is people take our efforts for granted."

Dr. Link encouraged radiology trainees and colleagues to take a more active role in the healthcare team. "We need to be image analysis integrators," he said. "What is a referring doctor looking for? He or she wants the report, but they also need to integrate that information. They're overwhelmed with work and with the number of patients they're seeing.

"The average clinician is looking to find out, 'How does that imaging study fit in with all of the other information I have on the patient and where do I go from here?'" Dr. Link continued. He described a scenario that could take place in a medical facility of any size.

"I can sit at a PACS station and pull up every piece of information on a patient," he said. "If I take the time and integrate that data and either call or somehow consult with a referring physician and say, 'Based on all the information I have, this is how the imaging fits in,' we then become a vital part of the diagnostic and treatment teams for the patient.

"If we just give one piece of data that's isolated, I worry that long term, people are going to say, 'Hey, if that's all they're doing, I'll just look at it myself,'" Dr. Link concluded.

Dr. Link admits that changing practice paradigms will not be easy. "When you have people who are terribly busy and short staffed to begin with, asking them to take another step or two and then spend the time calling someone is not an attractive alternative. In the short term, people don't want to hear this. Long term though, in terms of where the specialty stands, I don't think we can afford not to."

Radiologists are uniquely suited for a collaborative role, said National Institutes of Health Director Elias A. Zerhouni, who delivered the New Horizons Lecture, "Major Trends in the Imaging Sciences," at RSNA 2007. "Radiology is inherently interdisciplinary, whereas other science fields are inherently monodisciplinary," said Dr. Zerhouni.

Learn More

- A video of the lecture is available online at *RSNA.org/virtual2007.cfm.*

Australian Physicians Unaware of Personal Liability in Multidisciplinary Meetings

A STUDY OF the multidisciplinary meetings (MDMs) commonly used to manage oncology treatment in Australia revealed that participating physicians underestimate their personal responsibility for the groups' decisions.

In a study published in the June 2008 issue of the *Journal of Medical Imaging and Radiation Oncology,* Mark A. Sidhom, B.Ec. LL.B., M.B.B.S., and Michael G. Poulsen, M.D., F.R.A.N.Z.C.R., surveyed 136 physicians participating in 18 MDMs.

MDMs bring together surgical, radiation and medical oncologists, pathologists, radiologists and other physicians and allied health practitioners.

The authors note that while the courts would find each physician participating in an MDM responsible for decisions related to his or her area of expertise, only 48 percent of those surveyed believe they are individually liable. Awareness of liability was greater among physicians participating in MDMs attended by patients, versus those participating in "discussion only" MDMs.

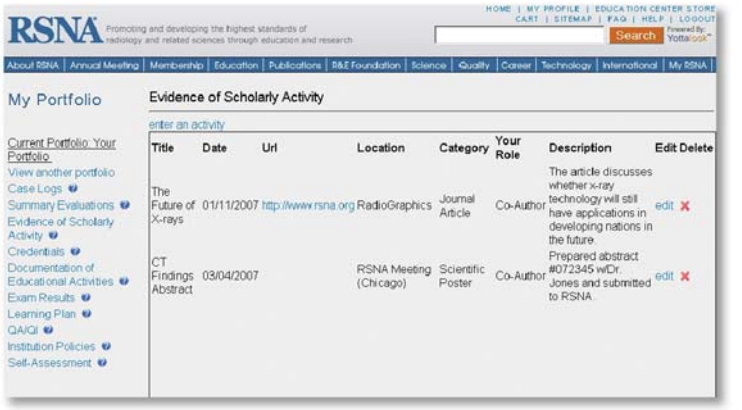
Almost three-quarters of those surveyed said they wanted further information about their legal responsibilities. Drs. Sidhom and Poulsen also recommend staffing MDMs adequately, recording meetings, soliciting more patient involvement and asking each MDM participant to record their decision individually. "It is inevitable that actions will be brought in the future against decisions made in MDMs," the authors write. "Improving the process … will protect doctors from any such litigation, but ultimately should also provide a better outcome for patients, making them more informed and promoting the best possible decision."

The abstract for "Group decisions in oncology: Doctors' perceptions of the legal responsibilities arising from multidisciplinary meetings," is available at *www.blackwell-synergy.com/toc/jmiro/52/3.*

Web-based Portfolio Helps Residents Chart Their Progress

RADIOLOGY residency comprises many different learning experiences—interpreting studies with multiple imaging modalities, learning anatomy and disease basics, refining decision-making skills and developing procedural skills. With a demanding and busy schedule, some residents find the idea of tracking their progress to be daunting or beyond their current capability.

My Portfolio, a Web-based portfolio to be unveiled by RSNA next month, is designed to help residents more easily log their educational development. Developed by RSNA in collaboration with the education committee of the Association of Program Directors in Radiology (APDR), My Portfolio enables residents and their program directors to document their training activities and development as now required by the Accreditation Council for Graduate Medical Education (ACGME).



My Portfolio will be accessible to RSNA resident members starting July 1. Choose Resources for Residents from the Education dropdown menu on *RSNA.org* or go to *RSNA.org/myportfolio.* The resident's institution must establish an account before the resident can start building a portfolio. For information on establishing an institutional account, call 1-800-381-6660 x7772.

Created as a means by which goals, accomplishments and progress are documented during the course of development, portfolios not only confirm experience and competency, but also support reflection on experience. By creating and maintaining a portfolio, the resident is encouraged to actively engage in describing their own behaviors and skills as they mature.

"Effective evaluation of progress throughout one's career is dependent on identifying areas of learning need in intellectual and procedural skills and addressing them in order to maintain competence and proficiency in practice performance," said Beverly P. Wood, M.D., Ph.D., M.S.Ed., chair of the APDR Education Committee. Dr. Wood is a professor of radiology, pediatrics and medical education at the University of Southern California's Keck School of Medicine.

> *The portfolio serves as an organic document that provides a location for identification of goals and documenting that they have been reached with a change in competence as a result.*
>
> **Beverly P. Wood, M.D., Ph.D., M.S.Ed.**

"The portfolio serves as an organic document that provides a location for identification of goals and documenting that they have been reached with a change in competence as a result," Dr. Wood continued. "The resident portfolio incorporates plans for learning and development of skills with documentation and demonstration of personal growth with their achievement."

The portfolio will be accessible to RSNA resident members starting July 1. Choose Resources for Residents from the Education dropdown menu on *RSNA.org* or go to *RSNA.org/myportfolio*.

Residents can record information about their learning during residency in sections designed to facilitate easy organization of data:

Case Logs—dated files listing types and numbers of cases interpreted and/or procedures conducted.

Summary Evaluations—summary documents of rotation evaluations uploaded by the resident's program director/program coordinator.

Evidence of Scholarly Activity—resident-entered record of his or her role in preparing/presenting journal articles, grants, lectures, posters and other scholarly work.

Credentials—documentation of resident credentials including medical license and hospital privileges.

Documentation of Educational Activities—resident-entered record of educational activities, self-assessment modules (SAMs), attendance at grand rounds and other conferences, required lectures and self-directed learning activity.

Exam Results—ongoing summary of individual exam results entered by the

Attendees of the annual meeting of the Association of University Radiologists, held in Seattle in March, visited the RSNA booth to learn more about My Portfolio, here demonstrated by *(second from right)* Linda B. Bresolin, Ph.D., M.B.A., C.A.E., RSNA assistant executive director for research and education, and *(right)* Mellie Pouwels, M.A., director of the RSNA Education Center. Developed by RSNA in collaboration with the Association of Program Directors in Radiology, My Portfolio enables residents and their program directors to document their training activities and development as now required by the Accreditation Council for Graduate Medical Education (ACGME).

program director/program coordinator.

Learning Plan—progressive record of specific learning goals and their outcomes.

QA/QI—documentation of the focus, methods and results of conducting or participating in quality assurance or quality improvement project.

Institutional Policies—resident-entered list of institution-specific policies—including patient safety policy and CPR training requirements—with attestations of compliance by the resident's program director and/or program coordinator.

Self-Assessment—resident-entered self-evaluations of knowledge, skills and competence and performance in ACGME competency areas.

User Settings—area where users can tie their portfolio to their institution and indicate individual preferences.

In addition to assessing information entered by their residents, program directors and coordinators can enter structured exam results and summary evaluations of their residents.

The impact of the portfolio is twofold. Residents will be able to assess their growth and progress as physicians, develop a structure for lifelong learning and build a repository of experience and professional documents required by licensing bodies and certification boards. Residents may take components of the portfolio with them into practice as they work to fulfill MOC requirements.

Program directors and coordinators, meanwhile, will be able to better track the development of individual residents and the overall success of their programs. Periodically reviewing each resident's portfolio with him or her will also provide a means of refining training goals, communicating expectations, planning and mentoring.

RSNA 2008 Course Promotes Good Health During Residency

Living Healthy During Residency (RC202), a refresher course, will address:

- Importance of lifestyle practices in the maintenance of health and prevention of disease
- Practical lifestyle changes to improve diet, physical activity and stress management
- Radiology resident compliance with national health guidelines and the aspects of radiology training and personal factors that impede compliance
- How a radiology resident's work environment and overall training could be changed to support resident efforts in maintaining a healthy lifestyle

Course presenters are Robert Kushner, M.D., M.S., Jannette Collins, M.D., M.Ed., and Louis J. Hinshaw, M.D. Registration for this and all RSNA 2008 courses begins June 30. For more information, go to *RSNA2008.RSNA.org.*

RSNA2008
Personal Learning in the Global Community

Science is Art in New *RadioGraphics* Feature

UNCONVENTIONAL artwork derived from 3D CT imaging makes its debut next month in the Illuminations section of *RadioGraphics*.

Kai-hung Fung, M.D., said he began producing CT art in 2003, when he discovered that the capabilities of isotropic imaging and full-spectrum color rendering could create "innovative and colorful artworks in unprecedented perspectives to display the beauty of internal human anatomy." Dr. Fung is an interventional radiologist and neuroradiologist at Pamela Youde Nethersole Eastern Hospital in Hong Kong.

> *Even scans with artifacts can be employed for creation of artworks with surprising results.*
>
> **Kai-hung Fung, M.D.**

Using 3D reconstruction software to manipulate anonymous images from hospital archives in virtual reality, Dr. Fung experiments with settings such as ultrawide angles, different color spectrums and different algorithm selections. He also occasionally employs advanced 3D techniques like segmentation, virtual endoscopy and trimming. His stereoscopic pairs are generated by shifting the 3D images horizontally. "Even scans with artifacts can be employed for creation of artworks with surprising results," he said.

Kai-hung Fung, M.D.
Pamela Youde Nethersole Eastern Hospital

His piece, "What Lies Beyond Your Nose?", won first place in the photography category of the 2007 Science and Engineering Visualization Challenge sponsored by the journal *Science* and the National Science Foundation. The artwork employed what Dr. Fung called the "rainbow technique," which he discovered accidentally while experimenting with software settings.

"It uses a very narrow algorithm and applies a rainbow spectrum of colors for rendering," said Dr. Fung. "At critical settings through manipulation on the window level and window width of the image, the layering artifacts due to individual CT slices will present rainbows of colors resembling contour lines to delineate the selected 3D structure representing specific CT density range."

Dr. Fung's creations have won a number of other awards as well, including recognition among National Geographic's "Best Science Images of 2007" and "Top Ten News Photo Galleries of 2007."

Some of the most remarkable components of Dr. Fung's images originate from unexpected structures such as thoracic fat, the haustral folds of the colon and malformations in thalamic arteries or artifacts formed during CT scanning after therapeutic removal of a piece of skull bone. Even positioning equipment visible on the scans can add intriguing lines and shapes. "Because the imageries are generated from genuine anatomical imaging data, they indeed represent the meeting point between art and science," said Dr. Fung.

"It is my greatest pleasure to share my art creations with *RadioGraphics*

Zen 2008

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Continued on next page

Journal Highlights

The following are highlights from the current issues of RSNA's two peer-reviewed journals.

Repair of Congenital Heart Disease: A Primer–Part 1

As patient survival and quality of life have increased with advances in surgical management of congenital heart disease, so too has the role of radiologists. Developments in CT and MR imaging have led to more cross-sectional imaging of these patients and, with many patients being followed into the fourth and fifth decades of life, pediatric radiologists are not the only ones who must understand the surgical treatment and resultant postoperative anatomy.

In Part 1 of a 2-part review article in the June issue of *Radiology (RSNA.org/radiology)*, Ana Maria Gaca, M.D., of Duke University in Durham, N.C., and colleagues review the median sternotomy procedure and its complications, as well as palliative procedures and complex repairs. Among the information presented:

Radiology

- Palliative procedures—classic and modified Blalock-Taussig shunts, Waterston and Potts shunts, pulmonary artery banding, Glenn and bidirectional Glenn shunts
- Complex repairs—Fontan operation, Norwood and Damus-Kaye-Stansel procedures

"To be of assistance to the cardiologists and cardiothoracic surgeons caring for patients with congenital heart disease, radiologists must understand the basic anatomy and physiology of these patients before and after surgical repair," Dr. Gaca and colleagues write.

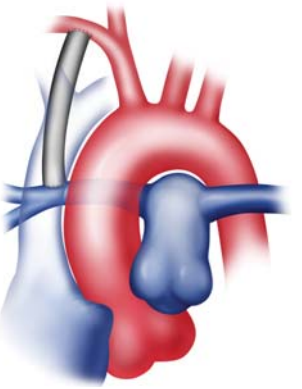

Illustration of a right modified Blalock-Taussig shunt.

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Continued from previous page

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2008 R&E Grants Awarded

The RSNA Research & Education (R&E) Foundation will fund 40 new and continuing research and education grants in 2008, representing over $1.7 million—the highest amount the Foundation has been able to fund in several years. The funding level is the result of increased funds available due to the success of the Silver Anniversary Campaign and an increase in the quality and merit of the grant applications. In addition, 21 medical students received grants for summer research projects. A complete listing of the 2008 grant projects is available at *RSNA.org/Foundation*.

To make grant funding decisions, the Foundation relies on a review process similar to the one used by the National Institutes of Health (NIH), using study sections to evaluate and score applications. John Bayouth, Ph.D. *(foreground)*, of the University of Iowa, was among the members of the Research Study Section that met in early April in Chicago to consider applications.

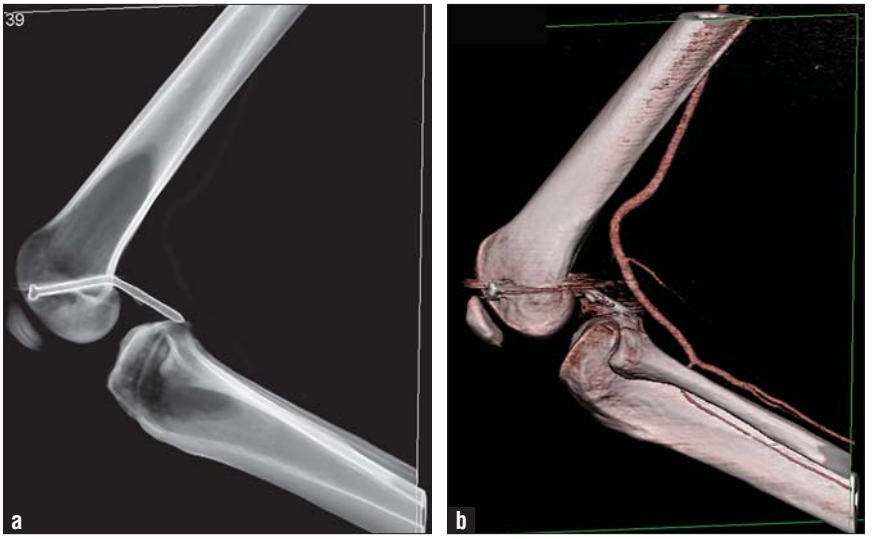
Members of the research and education study sections have expertise in diagnostic and interventional radiology, molecular imaging, radiation oncology, medical physics and radiologic education. For information on volunteering, contact Scott Walter, M.S., senior manager of grant administration, at 1-630-571-7816 or *swalter@rsna.org*.

Multidetector CT and 3D CT Angiography for Suspected Vascular Trauma of the Extremities

ADVANCES in CT technology continue to expand the applications of CT in the emergent setting, to the point that nearly every emergency department now has at least one CT scanner available at all times.

In an article in the May-June issue of *RadioGraphics (RSNA.org/radiographics)*, Elliot K. Fishman, M.D., Karen M. Horton, M.D., and Pamela T. Johnson, M.D., discuss what radiologists should know—with regard to CT angiography, optimization of current multidetector CT acquisition protocols, utility of 2D and 3D displays and CT findings in the presence of vascular injury—to ensure prompt diagnosis and treatment of patients with traumatic injuries to the extremities.

Specifically, the authors, of The Johns Hopkins University, address:



39-year-old male construction worker who fell and accidentally fired a nail into his knee. *(a)* Sagittal volume rendering adjusted to depict bone and metal CT shows the path of the nail and its lodging in the distal femur, with extension posteriorly. *(b)* Sagittal color-coded volume rendering to depict the artery demonstrate the nail to be near, but 2 cm away from the popliteal artery. The nail was successfully removed surgically.

- 64-section CT protocol design
- Data analysis
- Potential pitfalls
- Imaging findings
- Evidence from the literature

"Whether the injury be a stab wound, a gunshot wound or an injury from a motor vehicle accident, a CT study that allows visualization of injury to bone, muscle and vasculature seems to be an ideal way of limiting radiation dose by decreasing the number of studies performed," the authors conclude.

MAINTENANCE OF CERTIFICATION

MOC News

Editor's note: Long a source of information regarding the radiology certification and maintenance of certification (MOC) processes, *RSNA News* will now offer these updates in a dedicated section of the magazine.

ABR Launches *The Beam* Newsletter

The American Board of Radiology (ABR) recently published its inaugural issue of *The Beam*, a semiannual e-newsletter covering developments in radiology certification and maintenance of certification.

The newsletter will cover new requirements, policy updates and other developments in certification, as well as offer how-tos in such MOC areas as practice quality improvement. News from other agencies such as the Federation of State Medical Boards, American Board of Medical Specialties and Nuclear Regulatory Commission will also be reported.

The editor of *The Beam* is RSNA Board Liaison for Education George S. Bisset III, M.D., who also serves as an ABR assistant executive director. The Beam is available at *www.theabr.org.*

ABR to Assess Fee for Late MOC Payments

ABR has announced that beginning January 1, 2009, it will assess a $100 late fee on annual MOC payments made after the due date.

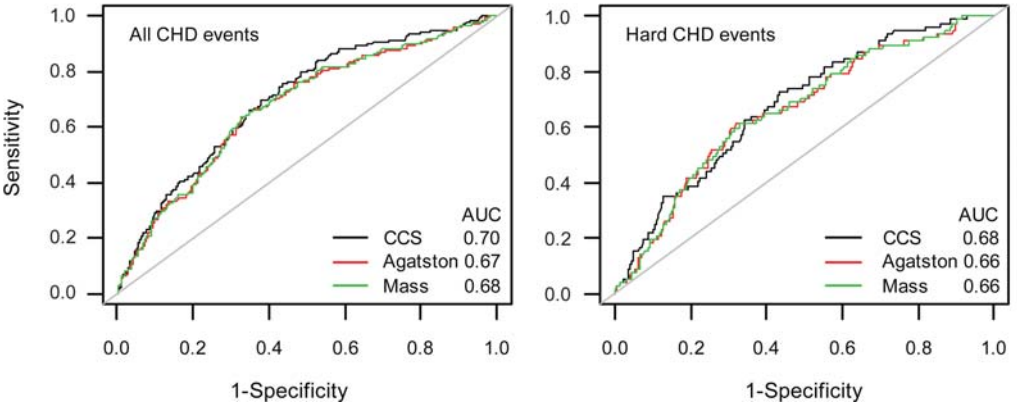
The annual payments are part of the MOC requirements that also include maintaining an unrestricted license, earning CME credits and completing self-assessment modules, taking a computer-based exam within the last three years of the MOC cycle and participating in a quality improvement project. More information is available at *www.theabr.org.*

Radiology in Public Focus

A press release has been sent to the medical news media for the following article appearing in the June issue of *Radiology (RSNA.org/radiology):*

Coronary Calcium Coverage Score: Determination, Correlates and Predictive Accuracy in the Multi-Ethnic Study of Atherosclerosis

RESEARCHERS have developed a new calcium scoring method for cardiac CT that may identify coronary heart disease risk better than Agatston or mass scores. Elizabeth R. Brown, Sc.D., of the University of Washington in Seattle, and colleagues proposed and examined a new algorithm called the calcium coverage score (CCS), which defines the proportion of coronary arteries affected by calcific plaque. The researchers found that a twofold increase in CCS was associated with a 52 percent increase in cardiovascular events.



Receiver operating characteristic curves for predicting all coronary heart disease (CHD) events *(left)* and hard CHD events *(right)* with calcium coverage score (CCS), Agatston score and mass score, with adjustments for age and sex. The areas under the receiver operating characteristic curve (AUCs) are shown. P values for the difference between AUC for the CCS and AUC for the Agatston and mass scores when predicting all CHD events were .003 and .006, respectively. P values for the difference between AUC for the CCS and the Agatston and mass scores when predicting all CHD events were .076 and .081, respectively.

CCS demonstrated that the spatial distribution, as well as the amount, of calcified plaque contributes to coronary heart disease risk. Individual scores highly correlated with hypertension, dyslipidemia and diabetes, "even when adjusting for the Agatston or mass scores, suggesting further that there is information in this new score about calcific plaques in the coronary arteries that is not captured by the Agatston or mass scores," the researchers write. They conclude that combining measurements of calcium burden with those of calcium location may help physicians better classify patients according to coronary heart disease risk and improve individual treatment strategies.

Media Coverage of *Radiology*

In April, media outlets carried 217 news stories generated by articles appearing in *Radiology*. These stories reached an estimated 184 million people.

News releases promoted findings from a study on the use of MR imaging to predict outcomes in patients who undergo external-beam radiation therapy for prostate cancer (*Radiology* 2008;247:141-146) and a study on the use of perfusion-weighted MR imaging to predict malignant transformation of low-grade gliomas (*Radiology* 2008:247:170-178).

Print coverage included *The Star-Ledger* (Newark, N.J.), *Diagnostic Imaging, Biophotonics International, Georgia Family Magazine, Science Letter, Drug Week, Life Science Weekly, Clinical Oncology Week* and *Health and Medicine Week.* Broadcast coverage included Ivanhoe Broadcast News.

Web placements included Yahoo! News, *Forbes.com, MSN.com, USNews.com, Healthcentral.com* and *Washingtonpost.com.*

June Outreach Activities Focus on Breast and Head Imaging

In June, RSNA's 60-Second Checkup radio program focuses on the importance of screening mammography, screening for breast cancer in high-risk women and imaging to evaluate sports-related head injuries in children.

Working For You

Making MIRC™ Work

Making MIRC™ Work
RSNA.ORG/MIRC
RSNA'S FREE ONLINE RESEARCH AND EDUCATION TOOLS

This month's featured real-world user of the RSNA Medical Imaging Resource Center (MIRC™) is Lisa Desiderio, R.T. (R) (MR) CCRC, neuroradiology research project manager in the Department of Radiology at the University of Pennsylvania (Penn). Desiderio spoke highly of the customizable features that allow users to tailor MIRC precisely for their individual needs.

FACED WITH the prospect of using CD-ROM or other "hard" media to collect, sort and archive thousands of files from the multisite MR substudy of the Women's Health Initiative Memory Study (WHIMS-MRI), Desiderio and colleagues decided to let the images come to them instead.

Using MIRC's Field Center application, the Penn MR Reading Center received 1,422 MR studies—each containing approximately 360 images—directly from MR imagers located at 14 different sites.

MIRC was tailored specifically for WHIMS-MRI, which examined the occurrence of cerebrovascular disease in 1,450 post-menopausal women who received hormone therapy during the Women's Health Initiative (WHI). Most WHIMS-MRI sites had the MIRC software installed by their own IT administrators, who worked by phone with MIRC support staff to test the program.

"The data were in DICOM format and no specific processing was involved, with the exception of anonymizing personal health information," Desiderio said. MIRC staff helped set up features to remove patient information from the files and assign identification numbers to each study participant, enabling a seamless transfer without compromising patient privacy or consuming staff time.


Lisa Desiderio, R.T. (R) (MR) CCRC

Minimal work was needed to start transferring files after Penn confirmed receipt of a test scan, said Desiderio. MIRC personnel helped remotely install updated versions of MIRC software as they emerged during the course of the study.

As data were received through the MIRC server, Penn staff reviewed images and then transferred them to a dedicated workstation. The transition will be even more efficient, she said, as increased workstation capabilities are added to MIRC. "Advanced imaging techniques like MR spectroscopy, perfusion and diffusion tensor imaging along with computer-aided detection systems would allow for improved methods of image analysis," she said.

MIRC was a fast, efficient and user-friendly method of transmitting images, especially from multiple sites, said Desiderio. "The anonymization feature, with no interruption at the local site's PACS, also proved useful for a clinical research trial," she added.

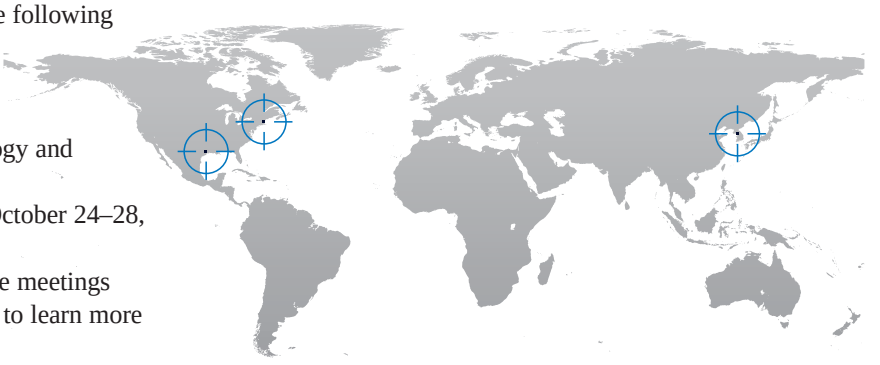
For more information, visit *RSNA.org/MIRC*.

RSNA Represented at Meetings Worldwide

Look for RSNA's informational booth at the following meetings this summer and fall:

- American Association of Physicists in Medicine, July 27–31, Houston
- American Society for Therapeutic Radiology and Oncology, September 21–25, Boston
- Asian Oceanian Congress of Radiology, October 24–28, Seoul, Republic of Korea

RSNA members planning to attend these meetings are invited to stop by and bring a colleague to learn more about RSNA membership.



If you have a colleague who would like to become an RSNA member, you can download an application at *RSNA.org/mbrapp* or contact the RSNA Membership and Subscriptions Department at 1-877-RSNA-MEM [776-2636] (U.S. and Canada), 1-630-571-7873 or *membership@rsna.org*.

Program and Grant Announcements

Advanced Course in Grant Writing

Application Deadline—July 1

THIS COURSE will help participants, typically junior faculty members, prepare and submit a National Institutes of Health (NIH), National Science Foundation (NSF) or equivalent grant application by the October 2009 deadline. A participant must possess an M.D. or Ph.D., be a faculty member in a radiology, radiation oncology or nuclear medicine program and never have been a principal investigator on an NIH- or NSF-funded project. The course will consist of four two-day sessions at RSNA Headquarters in Oak Brook, Ill., over a nine-month period beginning in September 2008.

RSNA/AUR/ARRS Introduction to Academic Radiology Program

(Formerly known as Introduction to Research)

Application Deadline—July 15

This program demonstrates the importance of research in diagnostic radiology, illustrates the excitement of academic careers and introduces residents to successful clinical radiology researchers. Successful applicants will be assigned to either a seminar held during RSNA 2008 or the American Roentgen Ray Society (ARRS) annual meeting in 2009. Radiology departments are invited to nominate one second-year resident. A total of 80 residents will be selected to participate.

More information about these programs, including application forms, is available at *RSNA.org/research/educational_courses.cfm.*

RSNA Derek Harwood-Nash International Fellowship

Application Deadline – July 1

International radiologists 3 to 10 years beyond training are invited to apply for this 6- to 12-week fellowship at a North American institution. One or two fellows will be selected.

The application form for this program is available at *RSNA.org/international/CIRE/dhnash.cfm.* For more information, contact Fiona Miller at *fmiller@rsna.org* or 1-630-590-7741.

RSNA-sponsored Course at the World Molecular Imaging Congress (WMIC) September 10–13 • Nice, France

Topics and speakers to be featured during an RSNA-sponsored course at the World Molecular Imaging Congress (WMIC) include:

Imaging of Biomarkers—Adrian Nunn, Ph.D., Bracco Research USA, Princeton, N.J.

PET Imaging in Clinical Trials—Gustav von Schulthess, M.D., Ph.D., University Hospital, Zurich, Switzerland

Optical Imaging in Clinical Trials—Michael V. Seiden, M.D., Ph.D., Fox Chase Cancer Center, Philadelphia

Imaging Treatment Response with MRI—Lawrence H. Schwartz, M.D., Memorial Sloan-Kettering Cancer Center, New York

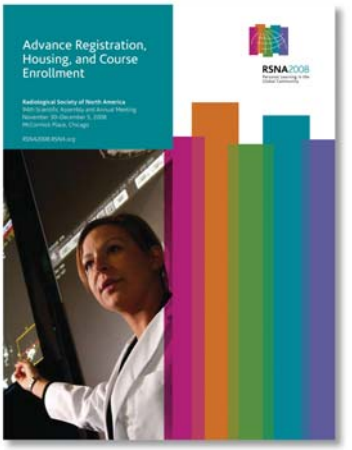
RSNA representatives on the WMIC program committee are Sanjiv Gambhir, M.D., Ph.D., of Stanford University, and Jan Grimm, M.D., Ph.D., of Memorial Sloan-Kettering Cancer Center. Session co-chairs are Dr. Grimm and Gabriel P. Krestin, M.D., Ph.D., of Erasmus Medical College.

RSNA is collaborating with the Society for Molecular Imaging, Academy of Molecular Imaging, European Society of Molecular Imaging, Federation of Asian Societies of Molecular Imaging, International Society for Magnetic Resonance in Medicine and SNM to present WMIC. More information is available at *www.wmicmeeting.org.*

News about RSNA 2008

Course Enrollment Opens June 30

BEGINNING June 30, the Advance Registration, Housing and Course Enrollment brochure will be available online as a PDF and in print. RSNA will mail the brochure to all RSNA/AAPM members and all non-member registrants as of June 1, excluding those who "opted out" of a printed copy at the time of online registration. RSNA will also mail a brochure to all 2007 non-member registrants. Others may download and print the brochure or request a printed copy at *RSNA.org/register.*



Enrollment is required for various components of the meeting, including refresher, multisession and financial courses, informatics workshops and RSNA tours and events. Digital Mammography Training and Self Assessment workshops also require advance registration.

CME Update: Earn up to 87.5 *AMA PRA Category 1 Credits*™ at RSNA 2008

Request a Printed Copy of the *RSNA Meeting Program*

Beginning in mid-June, RSNA members can request an advance copy of the printed *RSNA Scientific Assembly and Annual Meeting Program.* The *RSNA Meeting Program* is a benefit of membership.

To request a printed copy, go to *RSNA2008.RSNA.org* and click Meeting Program. Members may also call the RSNA Membership Department at 1-877-RSNA-MEM (77-2636) (U.S. and Canada) or 1-630-571-7873. The deadline is September 15.

Programs will not be mailed to members who do not request an advance copy and can be picked up at the annual meeting, along with the meeting bag. *RSNA Meeting Program* content will be available online before, during and after the meeting.

Registering for RSNA 2008

There are four ways to register for RSNA 2008:

❶ Internet Fastest way to register!

Go to *RSNA.org/register*

Use your member ID number from the *RSNA News* label or meeting flyer sent to you. If you have questions, send an e-mail to *rsna@experient-inc.com*

❷ Fax (24 hours)
1-800-521-6017
1-847-940-2386

❸ Telephone
(Monday–Friday, 8:00 a.m.–5:00 p.m. CT)
1-800-650-7018
1-847-940-2155

❹ Mail
Experient/RSNA 2008
108 Wilmot Rd.,
Suite 400
Deerfield, IL 60015-5124
USA

Registration Fees

BY 11/7	ONSITE	
$0	$100	RSNA Member, AAPM Member
$0	$0	Member Presenter
$0	$0	RSNA Member-in-Training, RSNA Student Member and Non-Member Student
$0	$0	Non-Member Presenter
$130	$230	Non-Member Resident/Trainee
$130	$230	Radiology Support Personnel
$620	$720	Non-Member Radiologist, Physicist or Physician
$620	$720	Hospital or Facility Executive, Commercial Research and Development Personnel, Healthcare Consultant and Industry Personnel
$300	$300	One-day registration to view only the Technical Exhibits

■ For more information about registering for RSNA 2008, visit *RSNA2008.RSNA.org*, e-mail *reginfo@rsna.org* or call 1-800-381-6660 x7862.

Important Dates for RSNA 2008

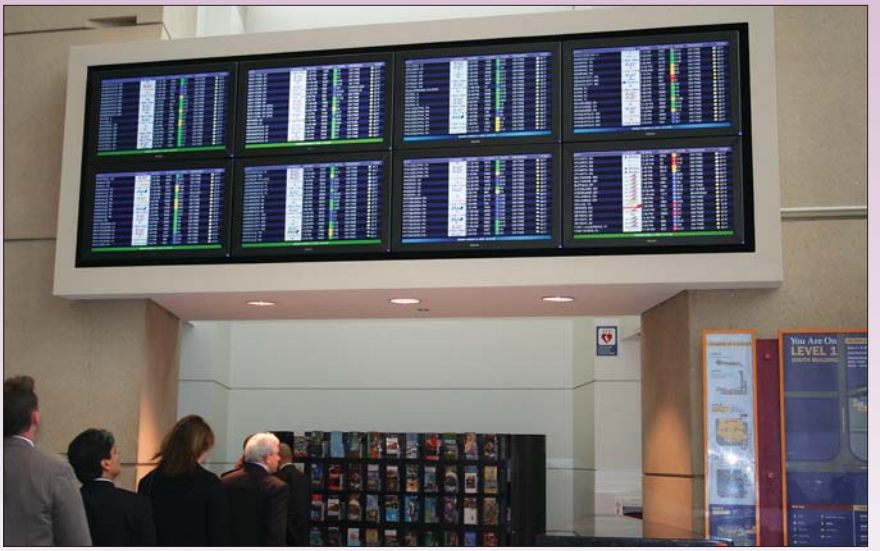
June 30	Course enrollment opens
Oct. 24	International deadline to have full-conference materials mailed in advance
Nov. 7	Final advance registration, housing and course enrollment deadline
Nov. 30–Dec. 5	RSNA 94th Scientific Assembly and Annual Meeting

RSNA2008
Personal Learning in the Global Community

News about RSNA 2008

International Visitors

Personalized invitation letters are available for request at *RSNA2008.RSNA.org.* Click International Visitors. This section of the annual meeting Web site also includes important information about the visa application process. It is recommended that international visitors start their visa process now.



Real-time Flight Information Available at McCormick Place
A new flight information display system (FIDS) installed at McCormick Place allows convention center visitors to view real-time flight departure information before traveling to O'Hare and Midway Airports. The FIDS screens are located in the McCormick Place Grand Concourse, above the main entrance at Gate 4.

New Layout to Improve Technical Exhibits Experience at RSNA 2008

At RSNA 2008, the Technical Exhibition will include Hall D (Lakeside Center) as well as Hall A (South Building) and Hall B (North Building). Hall D formerly housed scientific posters, education exhibits and other education content, which will move down one floor to Hall E across from the Arie Crown Theater. Food service outlets will be located in all four halls.

The largest exhibitors will be distributed among the three exhibit halls, along with a mix of smaller and mid-size exhibitors, to create a uniform experience in each hall, according to RSNA Technical Exhibits Committee Chair Jonathan M. Alexander, M.D.

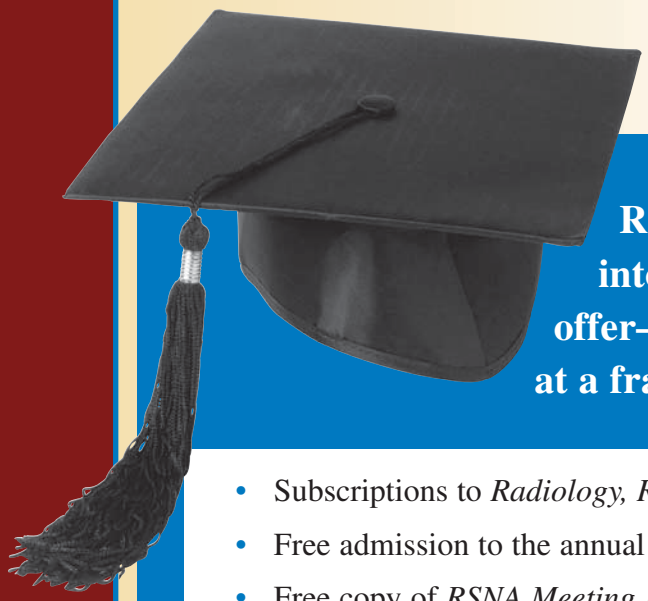
A story detailing the new layout will appear in the July 2008 issue of *RSNA News.*

RSNA2008
Personal Learning in the Global Community

94th Scientific Assembly and Annual Meeting
November 30–December 5, 2008
McCormick Place, Chicago

RSNA

RSNA Residents and Fellows – Take Advantage of this Special Offer for Graduated Dues



RSNA will ease your transition from training into full membership. This is a very special offer—all the benefits of RSNA membership at a fraction of the cost.

- Subscriptions to *Radiology, RadioGraphics* and *RSNA News*
- Free admission to the annual meeting*, the world's premier radiologic assembly
- Free copy of *RSNA Meeting Program* (by request)
- Free access to CME credit on InteractED®
- Free tools to help with the MOC process including self-assessment modules, discounts on RSNA educational materials, Publisher Partners medical textbook discounts, free access to the Community of Science Web site and the CME Gateway
- Access to the online Membership Directory and Career Connection Web site

*with advance registration

Year 1: $100
Year 2: $200
Year 3: full dues

For more information please call 1-877-RSNA-MEM (1-877-776-2636) or e-mail *membership@rsna.org*.

RSNA.org

Product News

NEW PRODUCT

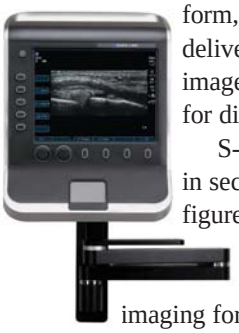
Mobile Digital Mammography

FUJIFILM Medical Systems USA, Inc. *(www.fujimed.com)* has announced that its Computed Radiography for Mammography (FCR*m*) full-field digital mammography system is now available for use in mobile mammography. FCR*m* makes the transition to digital in mobile environments easy and affordable while delivering Fujifilm's renowned image quality. The system features a durable imaging plate and is less sensitive to temperature and humidity changes that may damage electronic detectors.

Mobile FCR*m* is suited for van conversions because it works with existing X-ray equipment, uses standard 110v power and does not require special environmental control.

NEW PRODUCT

Hand-carried Musculoskeletal Imaging System



SonoSite, Inc. *(www.sonosite.com)* introduces the S-MSK™ ultrasound tool. Based on SonoSite's fourth generation M-Turbo™ platform, S-MSK is rugged, easy to use and delivers increased processing power for image clarity and seamless connectivity for digital image export.

S-MSK acquires the optimal image in seconds with just two controls. Configured for use with SonoSite's HFL38x and L25x broadband transducers, S-MSK provides exceptional imaging for assessment or guidance of interventional procedures. Flash memory of 4 GB retains enough data for 20 standard exams even after the power is turned off. Three USB slots allow for sharing of images and video clips.

NEW PRODUCT

Electronic Healthcare Alerts

Physicians can begin signing up at *www.hcnn.net* for the Health Care Notification Network (HCNN), a free, secure service delivering urgent patient safety alerts to healthcare providers. HCNN replaces paper-based alerts to more efficiently distribute information.

Alerts inform recipients of events including medication recalls, warnings and national public health emergencies. HCNN fulfills new FDA guidance for electronic communication of patient safety notification and is supported by medical liability carriers, medical societies, patient advocacy groups, health plans and other organizations dedicated to improved patient safety. HCNN protects healthcare provider privacy, with no e-mail addresses sold or disclosed to third parties.

FDA CLEARANCE

Laptop-sized Ultrasound Device

Mindray *(www.mindray.com)* has received FDA approval for its M5 portable ultrasound imaging system. The company's first laptop-sized ultrasound imaging device, the M5 weighs only 6 kg and combines brilliant color imaging with uncompromised 2D performance.

With its unique small size, M5 is easy to transport and offers fast boot-up, rechargeable batteries and lightweight multifrequency transducers.

The M5's intelligent information management platform, iStation™, has a storage capacity of 80G HDD and provides easy storage, fast review and efficient management of patient data. The M5 system integrates seamless network and plug-and-play connectivity such as DICOM, USB ports, DVD-R/W and DVD recorder.

RSNA News Information for *Product News* came from the manufacturers. Inclusion in this publication should not be construed as a product endorsement by RSNA. To submit product news, send your information and a non-returnable color photo to *RSNA News,* 820 Jorie Blvd., Oak Brook, IL 60523 or by e-mail to *rsnanews@rsna.org.* Information may be edited for purposes of clarity and space.

RSNA.org

RadioGraphics CME Tests

CME tests published in *RadioGraphics* are among the more than 300 peer-reviewed programs offered through InteractED®, RSNA's online educational resource. The goal of CME articles is to increase awareness about the radiologic characteristics of a variety of pathologic conditions and basic physics principles.

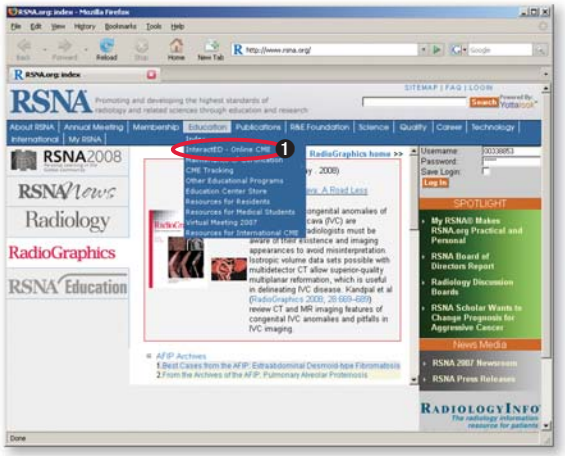
To see available tests after reading the CME articles, select InteractED from the Education dropdown menu at the top of *RSNA.org* ❶ and click *RadioGraphics* CME Tests ❷.

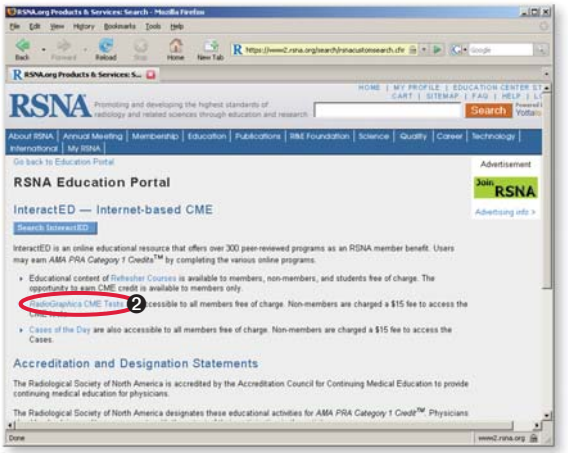
Tests from the current issue are listed immediately following goals and objectives and other relevant CME information ❸, followed by tests grouped according to CME content. Each title features a link to the *RadioGraphics* article ❹ and a link to the test ❺.

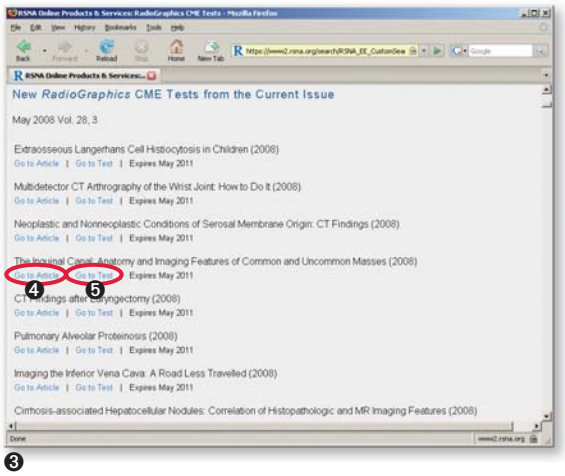
After clicking a test, RSNA members will be asked for their username and password. Nonmembers are charged a $15 fee to access each CME test.

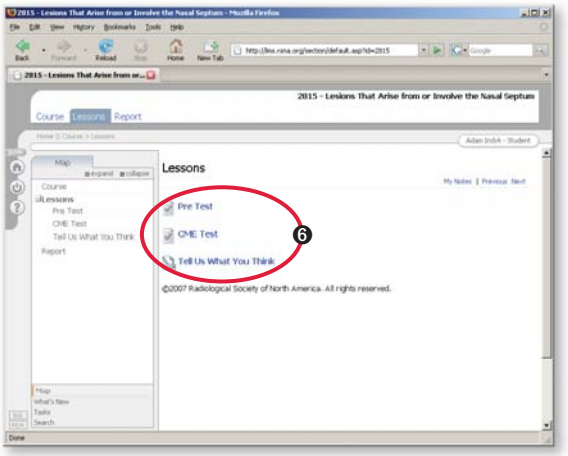
Each test includes a Pre-Test, CME Test and Tell Us What You Think evaluation form ❻. Participants must answer at least 80 percent of the test questions correctly to earn 1.0 *AMA PRA Category 1 Credit*™.

Upon passing the test, the participant can print a certificate of participation for his or her records. Record of the credit will also appear in the RSNA-Awarded Credits section of the participant's CME Credit Repository. RSNA members can access the repository by selecting CME Tracking and then CME Credit Repository from the Education dropdown menu at the top of *RSNA.org*.









Connections

Your online links to RSNA

RSNA.org

My RSNA™
RSNA.org – click My RSNA

***Radiology* Online**
RSNA.org/radiology

***RadioGraphics* Online**
RSNA.org/radiographics

RSNA News
rsnanews.org

Membership Applications
RSNA.org/mbrapp

RSNA Membership Directory
RSNA.org/directory

Education Portal
RSNA.org/education

RSNA CME Credit Repository
RSNA.org/cme

CME Gateway
CMEgateway.org

International Radiology Outreach Resources
RSNA.org/International/IROR.cfm

InterOrganizational Research Council
radresearch.org

RSNA Medical Imaging Resource Center
RSNA.org/mirc

RSNA Career Connection
RSNA.org/career

RadiologyInfo™
RSNA-ACR patient information Web site *radiologyinfo.org*

RSNA Press Releases
RSNA.org/media

RSNA Research & Education (R&E) Foundation
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Silver Anniversary Campaign
RSNA.org/campaign

Community of Science
RSNA.org/cos

CQI Initiative
RSNA.org/quality

RSNA 2008
RSNA2008.RSNA.org

NEW
My Portfolio
Access via My RSNA

CALENDAR

Medical Meetings
July – October 2008

JULY 27–31 VISIT THE RSNA BOOTH
American Association of Physicists in Medicine (AAPM), 50th Annual Meeting, George R. Brown Convention Center, Houston • *www.aapm.org*

JULY 27–31
American Healthcare Radiology Administrators (AHRA), Annual Meeting and Exposition, Colorado Convention Center, Denver • *www.ahraonline.org*

JULY 28–AUGUST 1
Society of NeuroInterventional Surgery (SNIS), 5th Annual Meeting, Resort at Squaw Creek, Lake Tahoe, Calif. • *www.snisonline.org*

AUGUST 15–17
Royal Australian and New Zealand College of Radiologists (RANZCR), New Zealand Branch Annual Scientific Meeting, SKYCITY Auckland Convention Centre, New Zealand • *www.ranzcr2008.co.nz*

SEPTEMBER 7–11
Sociedad Ibero Latino Americana de Neuroradiologia, 20th Annual Scientific Meeting, Fiesta Americana Royal Beach Hotel, Cancun, Mexico • *www.silan2008.com*

SEPTEMBER 10–13
World Molecular Imaging Conference (WMIC) 2008, Acropolis Convention Center, Nice, France • *www.wmicmeeting.org*

SEPTEMBER 10–14
American Society of Head and Neck Radiology (ASHNR), 42nd Annual Meeting, Hilton Toronto Hotel • *www.ashnr.org*

SEPTEMBER 13–14
Society for the Advancement of Women's Imaging (SAWI), 2008 Symposium, Westin Chicago River North • *www.sawi.org*

SEPTEMBER 13–17
Cardiovascular and Interventional Radiology Society of Europe (CIRSE), Annual Meeting, Bella Center, Copenhagen, Denmark • *www.cirse.org*

SEPTEMBER 21–25 VISIT THE RSNA BOOTH
American Society for Therapeutic Radiology and Oncology (ASTRO), 50th Annual Meeting, Boston • *www.astro.org*

OCTOBER 1–4
American Society of Emergency Radiology (ASER), Annual Meeting, InterContinental Houston • *www.erad.org*

OCTOBER 6–8
International Cancer Imaging Society (ICIS), Society Meeting and 8th Annual Teaching Course, The Assembly Rooms, Bath, United Kingdom • *www.icimagingsociety.org.uk*

OCTOBER 9–12
InterAmerican College of Radiology (CIR), 24th InterAmerican Congress of Radiology, Expo Minas, Belo Horizonte, Brazil • *www.cir-radiologia.org*

OCTOBER 11–14
North American Society for Cardiac Imaging (NASCI), Annual Meeting, Camelback Inn, Scottsdale, Ariz. • *www.nasci.org*

OCTOBER 13–17
American Osteopathic College of Radiology, Annual Convention, The Westin Resort, Hilton Head, S.C. • *www.aocr.org*

OCTOBER 15–19
RANZCR, 59th Annual Scientific Meeting, Adelaide, South Australia • *www.ranzcr.edu.au*

OCTOBER 16–18
Society of Chairs of Academic Radiology Departments (SCARD), 2008 Fall Meeting, JW Marriott Starr Pass Resort & Spa, Tucson, Ariz. • *www.scardweb.org*

OCTOBER 17–18
ASTRO, Translational Advances in Radiation Oncology and Cancer Imaging, Westin Arlington Gateway, Arlington, Va. • *www.astro.org*

OCTOBER 24–28 VISIT THE RSNA BOOTH
12th Asian Oceanian Congress of Radiology (AOCR), COEX Convention Center, Seoul, Republic of Korea • *www.aocr2008.org*

NOVEMBER 30–DECEMBER 5
RSNA 2008, 94th Scientific Assembly and Annual Meeting, McCormick Place, Chicago • *RSNA2008.RSNA.org*

RSNA News

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