MEG Imaging Results Are Possible Autism Biomarker

ALSO INSIDE:
- Business Focus Fosters Healthy Radiology Practices
- Cost-Effectiveness Critical in Lung Cancer Screening Recommendations
- Medical Myths, Maxims "Busted"
- Embracing Technology Equals Profit Amid Healthcare Reforms

Abstract Deadline for RSNA 2010: April 15, 2010
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Welcome to the redesigned RSNA News.

As Dr. Bisset notes, a redesign of RSNA News coincides with the update of the RSNA logo. At the same time we are also celebrating the 20th anniversary of RSNA News, and have a great opportunity to reflect upon how many aspects of our profession have changed in the last two decades—and how the vast majority of those changes have been undeniably positive. In this same spirit of continuous growth and evolution, we begin a new chapter in RSNA News history with our fresh new look.

In addition to a redesigned cover and Table of Contents, you’ll see some changes in the way information is presented in RSNA News, too:

• Features at the back of the magazine are now collected under the heading New You Can Use.

• In this newly designed area you’ll find information about your RSNA member benefits in a section now called For Your Benefit.

• The Education and Funding Opportunities section provides you with a plethora of programs, grants and meetings on a variety of topics to support your research and education endeavors.

The Medical Meetings list, previously published on the magazine’s back cover, now appears in this section.

The RSNA News redesign also brings a new look to our monthly features—you’ll still read about the very latest in radiologic science, technology, education and research, but with new layouts that really showcase the intriguing people and images from these stories.

TELL US WHAT YOU THINK

Do you have an opinion about the new look of the RSNA and RSNA News? We want to hear from you. Write to us at tellus@rsna.org. Selected responses will appear in an upcoming issue of RSNA News.

Editor’s Note

Robert White Jr., M.D., a professor of diagnostic radiology at the Yale University School of Medicine and director of the Yale Vascular Malignation Center, received the 2010 Career Achievement Award from the International Symposium on Endovascular Therapy (ISET). Dr. White is credited with developing new procedures in vascular interventional radiology including embolization of pulmonary arteriovenous malformation and varicocele and percutaneous valvuloplasty for pulmonary valve stenosis and coarctation restenosis.

Dr. White has also been honored with a gold medal and Leaders in Innovation Award from the Society of Interventional Radiology, of which he is a past-president. He delivered the 1985 RSNA New Horizons Lecture, “Interventional Radiology—Reflections and Expectations.”

R&E Foundation Exceeds Silver Anniversary Goal

The RSNA Research & Education (R&E) Foundation surpassed its goal to raise $15 million by the Foundation’s 25th anniversary in 2009.

In raising more than $16 million from 2005 to 2009, the Foundation received:

• $7.7 million in individual gifts
• $6.7 million in corporate gifts
• $1.2 million from Visionaries in Practice private practice donors

“The support of the RSNA community has been incredible,” said Jack E. Price, M.D., chair of the Foundation’s board of trustees. “To know that the results of this campaign will have a direct impact on grant funding—that is something to celebrate.”

White Receives ISET 2010 Career Achievement Award

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IT’S ALL IN THE NAME: THE RSNA’S BRAND NEW IMAGE

When you received this month’s issue of RSNA News in the mail or opened it in your Web browser, you may have noticed that not only has the cover been redesigned, but also that the RSNA logo itself has undergone a slight makeover. As medical imaging evolves, we believe it is appropriate for the RSNA to evolve also—so we have updated our look.

Far from simply a cosmetic change, the new RSNA logo is the culmination of an effort to understand what people believe about the RSNA. The Society regularly reaches out to its members and attendees to find out what they think of its products and services, which include technology, education and research, patient care and networking with colleagues and advancing radiologic science, technology and clinical care through education, collaboration and leadership.

Our research into people’s perceptions of the RSNA disclosed that the Society’s name or brand is strong as we approach the 100th anniversary of its founding. In addition, as I noted above, the RSNA has evolved along with the profession it represents, and so we have also updated or “refreshed” the RSNA logo.

The new logo features a unique font, symbolizing the strength and historical foundation of the Society. The triangular accent mark and radial line reflect illumination by and hopes for medical imaging. The upward movement of the line reflects the Society’s dynamic leadership in advancing the science and technology of radiology and shaping the future of our specialty.

Our research also disclosed that, while many people understand, use and appreciate various RSNA products and services, they don’t always associate them with the RSNA or relate them to one another. Therefore we have united all Society products and services in a robust, consistent structure with the refreshed RSNA logo, forming an “RSNA family” of products and services.

I thank all the members and colleagues who took time to convey their thoughts about the RSNA in surveys and interviews. I also thank Horiguchi M.F.D., M.Ed., Dr. h.c., RSNA President, who spearheaded our brand study and redesign, and Sarah S. Donaldson, M.D., Liaison for Publications and Communications, who has guided the implementation of the redesign throughout the RSNA.

George S. Bisset III, M.D.
Chairman
RSNA Board of Directors

The RSNA’s Brand New Image

March 2010
My Turn

Mind Your Business

Diagnostic and interventional radiologists, radiation oncologists and medical physicists train for years to gain the knowledge and skills to deliver sophisticated components of healthcare. Residency and fellowship programs, certification processes and continuing education courses are designed to ensure clinical competency in delivering state-of-the-art care to the patient. As you provide this high quality care, don’t take the health of the business aspects of your practice for granted. Some critical things to keep in mind:

First, everyone providing care must have a fundamental understanding of how their work results in billable charges. Distilled reports of diagnostic imaging exams, interventional procedures or radiation therapy treatments should be the basis on which accurate billing is generated—and audited claims are defended. As per procedure reimbursement is reduced it is even more important that your practice dictates not only convey clinical information but also include all necessary description and terminology to result in proper payment. Understanding what terms are necessary to justify codes submitted on claims is absolutely necessary.

Second, the medical staff in your practice must become involved beyond clinical care. Involvement in staff committees, such as those for credentials and quality care, and leadership make your practice identify in the eyes of your clinical colleagues and the hospital administration. Radiologists are ideally positioned to get to know most of the medical staff and, with dedication and commitment, can demonstrate their willingness to serve and contribute. You then will be viewed as a resource and not just a name on a report. Your practice must foster a culture of supporting those who get involved.

Third, and of great importance, is cultivating the next generation of leaders. We must must identify those with the aptitude for—and interest in—assuming business functions. One person as the identity of a practice and leadership make your practice positioned to get to know most of the medical staff and, with dedication and commitment, can demonstrate their willingness to serve and contribute. You then will be viewed as a resource and not just a name on a report. Your practice must foster a culture of supporting those who get involved.

Our sub-specialties and profession are here to stay and the time is now to start making plans for your practice. You must learn to market your practice and contribute. You then will be an important part of the next generation of leaders. You must learn to market your practice and contribute. You then will be an important part of the next generation of leaders.

Reactor Restart Delayed

The restart of the National Research Universal (NRU) reactor at Chalk River Laboratories may be delayed until later this year, according to Atomic Energy of Canada Limited (AECL).

The reactor, safely shut down in May 2009 after workers detected a small heavy water leak, produces about a third of the world’s medical isotopes.

“Every effort is being made to return the NRU to service as soon as possible,” according to a report from AECL. “However, the program to return the NRU to service must be driven by safety, producing a quality repair, conservative decision making and controlling all of the necessary analysis before executing any of the repairs.”

Updates on the restart project are available at www.nrcan.gc.ca/en/home/projectrestart/statusupdates.

IOM Urges Stricter Resident Hours

In an effort to help prevent fatigue-related errors, the Institute of Medicine (IOM) recommends further restrictions on duty hours for resident physicians, according to an article in the January 2010 issue of the Journal of the American College of Radiology (JACR).

In 2003, the Accreditation Council for Graduate Medical Education (ACGME) set duty hour limits across all specialties nationally to promote safe patient care and resident well-being. As the result of Congress, IOM recorded the issue and commonly issued a report calling for further restrictions on resident duty hours, better resident supervision and new federal oversight of the ACGME in monitoring resident duty hours. An abstract of the article, “Resident Duty Hour Limitations: Recommendations by the IOM and the Response From the Radiology Community,” appears at www.jacr.org.

A full report on the recommendations will appear in the April issue of JACR.

Fetal Dose

Question of the Month

The question of the month is: What is the radiation dose to the fetus during a CT pulmonary angiogram and a ventilation perfusion scintigram performed on a pregnant patient? (Answer on page 23)

Kaplan is Subject of New Book

The career of internationally known radiation oncologist Henry Seymour Kaplan, M.D., is detailed in a new book, “Henry Kaplan and the Story of Hodgkin’s Disease,” to be released April 1 by Standard Press. Written by Charlotte Jacobs, M.D., a professor of medicine at Stanford University, the book explores Kaplan’s life as a foremost physician–scientist who changed the course of a once fatal, now curable, cancer. The book recounts the history of Hodgkin’s, including ambiguities of diagnosis and chemotherapy and improving cure rates and unanticipated toxicities.

A longtime RSNA member, Dr. Kaplan was awarded the inaugural Annual Oration in Radiation Oncology (then the Erskine Memorial Lecture), “Hodgkin’s Disease: Multidisciplinary Contributions to the Conquest of a Neoplasm,” at RSNA 1976. Dr. Kaplan was first radiation oncologist elected to the National Academy of Sciences in 1972.

A Stanford professor for 35 years, Dr. Kaplan co-developed the first linear accelerator, the first mobile unit. In 2002, he received the American Society of Clinical Oncology Lifetime Achievement Award. He was honored by the American Society for Clinical Oncology in 2005 as part of their 25th anniversary celebration. In 1976, he founded the Kaplan Cancer Foundation.

Maglinte Named Distinguished Professor

In recognition of his contributions to gastrointestinal and abdominal imaging, Dr. David Maglinte, M.D., has been named Distinguished Professor of Radiology and Imaging Sciences at Indiana University School of Medicine in Indianapolis. Dr. Maglinte was named the 2008 Society of Gastrointestinal Radiologists (SGR) Walter Bradford Cannon Medallist and received SGR’s 2006 Richard H. Marshall International Lecturer Award.

Federle Receives SGR Medal

Michael P. Federle, M.D., a professor of diagnostic radiology at Stanford University, has been named the 2010 Society of Gastrointestinal Radiologists (SGR) Walter Bradford Cannon Medallist. Dr. Federle was honored during the 2010 Abdominal Radiology Course in Orlando, Fla., as part of the SGR awards ceremony. SGR president from 2006–2007, Dr. Federle is the author of several books and more than 300 scientific manuscripts and chapters and has presented hundreds of lectures to radiologists around the world.

Haskal Named JVR Editor

Ziv J. Haskal, M.D., has been named editor of the Journal of Vascular and Interventional Radiology (JVIR), for a five-year term, Dr. Haskal is vice-chair and a professor of radiology and surgery, chief of vascular and interventional radiology and director of interventional oncology and vascular surgery for the University of Maryland Medical Center in Baltimore. He has held a long-standing editor as editor and then deputy editor of Cardiovascular and Interventional Radiology and has served as reviewer for numerous peer-reviewed journals including Radiology.

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MEG Imaging Results Are Possible Autism Biomarker

New research shows that a fractional delay in a child’s ability to process sound and language may serve as a biomarker for autism. Measuring magnetic signals that mark this delay could become part of standardized diagnosis.

In findings reported in the January 2010 online version of Autism Research, a research team led by Timothy P.L. Roberts, Ph.D., vice-chair of radiology research at Children’s Hospital of Philadelphia, used magnetoencephalography (MEG) to detect magnetic fields in the brain similar to the way electromagnetoencephalography detects electrical fields. Using a helmet that surrounded the child’s head, the team presented a series of recorded beeps, vowels and sentences. As the child’s brain responded to each sound, noninvasive detectors in the MEG machine analyzed the brain’s changing magnetic fields.

Researchers compared 25 children with autism spectrum disorders (ASDs), with a mean age of 10 years, to 17 age-matched typically-developing children. Children with ASDs had an average delay of 11 milliseconds (just over 1/100 of a second) in brain responses to sounds compared to control children. In the ASDs group, delays were similar whether or not the children had language impairments.

ASDs are childhood neurodevelopmental disorders that impair verbal communication, social interaction and behavior. Dr. Roberts presented early findings on this research at RSNA 2008.

“This delayed response suggests that the auditory system may be slower to develop and mature in children with ASDs,” Dr. Roberts said. “An 11-millisecond delay is brief but it means, for instance, that an ASD child who hears the word ‘elephant’ is still processing the ‘el’ sound while other children have moved on. Delays may cascade as conventional skills develop and the child may lag behind typically progressing peers.”

MEG imaging could conceivably be used to classify autism spectrum disorders and could possibly lead to therapeutic approaches such as slowing speech when communicating with autistic children, Dr. Roberts said.

Science Moves to Clinical Setting

The importance of the research was acknowledged by T. Jason Druzgal, M.D., Ph.D., a research fellow in the Department of Radiology at the University of Utah in Salt Lake City, who presented research at RSNA 2009 titled “Regional Homogeneity Analysis of Resting State BOLD fMRI Demonstrates Differences between Autistic and Typically Developing Control Patients: Can We Clinically Image Cognitive Pathology?”

“What I like about Dr. Roberts’ work is that it’s starting to show effects using very simple paradigms,” Dr. Druzgal said. “When we talk about moving science into the clinical setting, you need diagnostic tests that are feasible in a busy practice. With MEG tests, patients can sit passively and listen to tones and beeps which can be performed on anybody who can still sit for a few minutes.”

White Matter Focus of MEG Research

In another study, “Developmental Correlation of Diffusion Anisotropy With Auditory-Evoked Response,” published in the December 2009 edition of NeuroReport, Dr. Roberts and colleagues hypothesized a biophysical reason for the auditory processing delay in children with ASDs. Researchers concentrated on MEG analysis of the brain’s white matter, which carries electrical signals. After analyzing the development of white matter in the brains of 30 typically-developing children and adolescents, researchers observed that the signaling speed of white matter improves when neurons are better protected with an insulating sheet of a membrane material called myelin.

“In children with autism we are now able to speculate that the reason we are seeing a delay in the evoked response might be due to a less efficient highway from the thalamus to the cortex, or a less myelinated acoustic radiation—a result of the delay in maturation of the myelinated white matter,” Dr. Roberts said.

Further research is needed on the myelin’s maturation process and where the maturation goes wrong in children with ASDs, he said.

“We can now say we have a mechanism to help understand the delay,” Dr. Roberts said.

This study paves the way for potential treatments and even possible drug interventions that may target myelin production or maturation, Drs. Roberts and Druzgal said.

“This is where radiology can help basic science and the pharmaceutical industry figure out what might be reasonable targets for drug development for autism,” Dr. Roberts said. “It provides some sort of biological target and that’s where this is going to be considered a breakthrough. We’re led to a biophysical mechanism which leads to a biological target that you could develop strategies to alleviate. And it provides a functional measure of efficacy of any drug that is developed.”

Dr. Druzgal noted, “As we start to develop imaging that’s useful for these different types of cognitive pathologies, it will become part of the diagnosis and hopefully, subtyping.”

In further research, Drs. Roberts and colleagues will seek to refine their imaging techniques to determine the biomarker’s specificity to ASDs and investigate other MEG patterns in children with ASDs in addition to auditory delays.

“This is where radiology can help basic science and the pharmaceutical industry figure out what might be reasonable targets for drug development for autism.”

Timothy P.L. Roberts, Ph.D.

When children with autism hear tones in rapid succession (lower left graph), their response to the second tone is greatly reduced and delayed compared to responses by typically developing children (lower right graph). Upper graphs show responses to two tones separated at a longer interval. Blue and red colors on the skull diagrams indicate signal strengths.
The economic downturn and rapid advancements in imaging technology have driven significant changes in the radiology workplace in recent years and radiologists must adapt to the changing times to stay on top, according to leaders in the field.

“For the last 15 years, staff shortages meant critical radiologists could write their own tickets,” said James H. Thrall, M.D., radiologist-in-chief at Massachusetts General Hospital (MGH) and the Jean M. Tavenor Professor of Radiology at Harvard Medical School, both in Boston. “Now they have to compete to keep their jobs.”

The “salad days” when radiologists made a lot of money and felt entitled to take rights to 12 weeks of vacation a year and announce night work are gone, said Giles W.L. Boland, M.D., vice-chair of radiology and business development at MGH and an associate professor of radiology at Harvard Medical School.

“These glory days aren’t coming back,” Dr. Boland said. “Some radiology groups have failed to align their interests with the needs of the hospital and radiologists can no longer count on an exclusive franchise with a hospital. Hospitals can’t hold the line on turf because other specialists are admitting patients.”

“Just Being Good Is Not Enough”

Radiologists who want to maintain a healthy business in this climate must be involved in the diagnosis and management of care, Dr. Thrall said.

“Radiologists need to understand that what we do is far more important in the care process than it was 20, 30 or 40 years ago,” he said. “We need to become major participants in hospital governance and proactive in joining quality assurance committees.”

Radiologists must start thinking of themselves as business people as well as healthcare professionals, Dr. Boland said. “I don’t believe everyone in radiology knows this is a business.”

Critical to that process is recognizing that the needs and desires of the “customers,” or patients, are most important and that radiology provides a necessary service.

“Radiologists need to ask: What does it mean to be a patient? A good read is just a piece of the overall service we are giving,” Dr. Boland said.

Dr. Thrall agreed, saying in the past it was enough to be a good doctor—but not more. Now, the care process is so integrated that just being good is not enough,” he said. “You need to be a team player. The quality of work should be a given, but that’s a starting point, not the end goal. For radiologists to be competitive, they must think in those terms.

“Our core value should be to service the patient and the referring physician,” he added.

Top 5 Challenges Facing Radiologists Today

1. Slow response of hospitals to shift clinical care toward outpatient facilities
2. Increasingly stringent services and quality standards
3. Need for local image interpretation
4. Inability of smaller radiology groups to deliver a broad spectrum of services
5. Turf battles

“Just Being Good is Not Enough”

Radiologists who want to maintain a healthy business in this climate must be involved in the diagnosis and management of care, Dr. Thrall said.

“The use of information systems to monitor a wide variety of quality metrics offers managers the opportunity to standardize radiology and departmental practices with the goal of transforming these practices into those that are more efficient, cost effective and of higher quality,” Dr. Boland wrote in the article.

Business has used the economic dashboard as a standard for years—now it’s time for radiology to adopt this measure of operating efficiency, Dr. Boland said.

He stressed that this is not a one-time fix, but a process that must be continued on a regular basis.

“Think about this like mowing the grass in the summer,” he said. “You don’t just do it once. You do it weekly. Those who continually revitalize their performance and improve will succeed. Customers will migrate toward improved products.”

Involvement Critical to Success

With the economy on a slow road to recovery, Dr. Boland suggested radiologists become more efficient, productive and involved in their own workplaces if they hope to create a thriving practice or department.

“Become more engaged with the referring physician and the patient,” he said.

“Talk directly with the patient about how MR imaging works or about the function of IV contrast or about the amount of radiation dose. It’s critical for radiology to move in this direction.”

“There are solutions to most of the challenges facing radiology today,” Dr. Thrall said. “The only one we will likely lose is the turf issue,” he predicted.
Cost-Effectiveness Critical in Lung Cancer Screening Recommendations

While randomized controlled trials show that low-dose helical CT screening may decrease lung cancer mortality, cost effectiveness will be an important part of best practice recommendations, according to findings presented by researchers at RSNA 2009.

A decade-long study examining cost versus benefit of helical CT screening for lung cancer conducted at Massachusetts General Hospital (MGH) in Boston, was launched after research suggested possible benefits of lung cancer screening, said presenter G. Scott Gazelle, M.D., M.P.H., Ph.D., a professor of radiology at MGH and Harvard Medical School and a professor in the Department of Health Policy and Management at Harvard School of Public Health.

“We saw it as a developing controversy because we knew several very ambitious clinical trials were about to begin and we felt that they couldn’t possibly address all of the issues relevant to CT screening for lung cancer,” Dr. Gazelle said. “It was about 10 years ago that we set out to develop a model to study these questions, so it has been a long time in the making.”

Combined Intervention and Screening Effective but Costly

To evaluate cost effectiveness, researchers used an existing, well validated microsimulation model of lung cancer to simulate six cohorts of individuals (white men and women ages 50, 60, and 70 years in 1990) in multiple scenarios.

Researchers compared four types of interventions: no screening, screening with helical CT, smoking cessation alone, and combined screening/cessation programs over a range of estimates regarding their effectiveness and cost. All interventions were modified at one time and annual.

“Our model predicts mortality reductions between 18 and 25 percent after 10 years of annual screening compared to no screening, at costs of between $134,000 and $181,000 per quality-adjusted life year (QALY),” Gazelle said. “One-time screens yielded mortality reductions but the relative effects on the cost per QALY would depend on whether the heaviest or lightest smokers were missing more assigned screening exams, Dr. Gazelle said.

Compared to no intervention, the cost for a one-time smoking cessation program offered to current smokers was about $9,300 per QALY. Compared to a one-time cessation program, the cost for annual cessation was approximately $17,000 per QALY.

“Our study showed that CT screening for lung cancer can be beneficial—it results in a reasonably good mortality reduction—but it is not cost effective as compared to smoking cessation alone,” Dr. Gazelle said.

CT Benefits Chest Pain Patients, Cuts Bills

Another study presented at RSNA 2009 showed that the reported high negative predictive value of ECG-gated cardiac CT in low- to moderate-risk chest pain patients may allow an earlier, yet safe, discharge from the emergency department (ED) at a considerable cost savings.

For chest pain, the standard of care is an ECG, a blood test and a nuclear stress test, which keep a patient in the ED an estimated 30 hours and cost as much as $8,000, said William Shuman, M.D., a professor and vice-chair in the department of radiology at the University of Washington School of Medicine and director of radiology at the University of Washington Medical Center.

Based on earlier studies, Dr. Shuman theorized that a gated cardiac CT angiogram (CTCA) could rule out signs of steno-

sis, resulting in the discharge of a patient in just five hours at a cost of about $4,000.

In a scientific presentation, Dr. Shuman and colleagues detailed results of a study testing the CTCA theory. Researchers prospectively followed 70 consecutive patients admitted to the ED suffering chest pain. Each patient agreed to a 64-channel ECG-gated cardiac CT to determine signs of significant coronary artery stenosis.

There was no coronary cause for their pain demonstrated on CTCA, so all patients were discharged. In a follow-up, Dr. Shuman and colleagues interviewed the patients at three-, six- and 12-month intervals after the initial ED visit.

“Two previous studies looked at patients six months later,” Dr. Shuman said. “Those studies had the exact same results as ours. None of the 70 patients experienced any adverse heart-related medical events during that time. CTCA avoided further unnecessary and expensive medical tests, they discovered.

“Our study showed that CT screening for lung cancer can be beneficial—it results in a reasonably good mortality reduction—but it is not cost effective as compared to smoking cessation alone.”

G. Scott Gazelle, M.D., M.P.H., Ph.D.
Medical Myths, Maxims “Busted”

Popular myths in radiology practice were challenged or “busted” by presenters who addressed a packed room of attendees during a special focus session at RSNA 2009.

Based on the popular “MythBusters” television show, the session deconstructed several common maxims about findings in adult and pediatric neurologic neoplasms, long bone tumors, mesenchymal neoplasms and cardiovascular disease.

“Some of our most cherished medical ‘facts’ are actually unproven or proven to be untrue,” explained presenter James G. Smirniotopoulos, M.D., diagnostic imaging program director at the Center for Neuroscience and Regenerative Medicine and a professor of radiology, neurology and biomedical informatics at Uniformed Services University of the Health Sciences (USUHS) in Bethesda, Md. “Critical thinking should always be used to evaluate medical information.”

Neuro Myths Negated

Dr. Smirniotopoulos busted the first myth: Intraaxial edema around an extraxial meningioma predicts a malignant histology.

“That can’t possibly be true, because the vast majority of meningiomas are non-malignant,” Dr. Smirniotopoulos explained. He revealed that 91 percent of meningiomas are World Health Organization Grade 1 and that 50 percent have vasogenic edema.

However, Dr. Smirniotopoulos noted, it is plausible that intraaxial edema predicts a poor prognosis. Edema seems to be related to resectability, he explained, and to what degree the meningioma will “stick” to the underlying brain. “If you leave some behind there is a chance of tumor recurrence,” he said. “Resectability is related to prognosis and, therefore, edema is indirectly related to prognosis.”

Also “busted” was the myth that vasogenic edema predicts the histology of chordal pleural neoplasms. Alice B. Smith, Lt. Col., U.S. Air Force, M.C., chief of radiology, Armed Forces Institute of Pathology and an investigator on studies that promulgated these myths, Dr. Kransdorf said. He demonstrated that it’s not uncommon to encounter partial marginal sclerosis in giant cell bone tumor at CT and, to a lesser extent, on radiography.

“Much of what we see in residency is based on very old studies that are repeatedly referenced in the literature,” Dr. Kransdorf said.

Liver Beliefs Busted

There liver myths were addressed by Pablo R. Ros, M.D., M.P.H., chair of radiology at University Hospitals of Cleveland and Case Western Reserve University.

Dr. Ros demonstrated that hemangiomatosis is not, in fact, always easy to distinguish from metastases with CT and MR scans, as is popularly believed. He also showed that portal vein invasion—contrary to many texts—can occur in liver metastases. Noting that he himself was an investigator on studies that promulgated these myths, Dr. Ros explained, “I contributed to these myths myself, but experience taught me I was wrong. I was very young.”

He also confirmed the plausibility of the belief that there is no iron particle uptake in hepatocellular carcinoma.

Two more myths—that right ventricular myocardial edema around an extraaxial meningioma predicts a malignant histology and that portal vein invasion occurs only at the epiphyses—were busted by Vincent B. Ho, M.D., M.B.A., interim chair and a professor of radiology at USUHS.

“If you look at the criteria described by the ARVD Task Force in 1994, nowhere does it say that fatty infiltration is an imaging criterion of ARVD,” said Dr. Ho, noting that sub-epicardial, intramyocardial fibrofatty infiltration is the histopathologic hallmark of ARVD.

“Typically, the resolution of the imaging studies we perform is unable to reliably depict fibrofatty infiltration. Therein lies the problem and, perhaps, the source of the myth.”

The calcium score myth is probably more common among physicians than it is among your institution,” Dr. Ho continued. “We know that calcified plaque is a feature of atherosclerotic CAD, but we also know that not all atherosclerotic plaque calcifies. In fact, calcification only counts for around 20 percent of the plaque burden.”

The final myth, busted by Dr. Smirniotopoulos, is the idea that imaging can be used to define the margin of diffuse astrocytoma. “The corollary is that will improve the survival and prognosis,” Dr. Smirniotopoulos said. “The reality is that individual cells can spread away from the white matter and infiltrate functional brain parenchyma in a way we may not even be able to detect with current technology. If the surgeon were to try to remove all these cells, we’d be giving the patient a neurological deficit and decreasing their quality of life.”

Throughout their education and training, radiologists will encounter tens of thousands of medical ‘facts’, Dr. Smirniotopoulos concluded. “However, even the most logical and rational ‘facts’ need to be re-examined periodically to see their validity.”

FROM RSNA 2009

This article was adapted from stories that appeared in the RSNA 2009 Daily Bulletin. Daily newspapers from the annual meeting are available online at RSNA.org/dailybulletin.

Busted!

Radiologic Practice Myths Challenged:

• Intraaxial edema around an extraxial meningioma predicts a malignant histology.

• “Marginal sclerosis virtually always easy to distinguish from metastases.”

• In a long bone, giant cell tumor occurs only at the epiphyses.

• Zero calcium score equals no atherosclerotic coronary artery disease.

• Imaging can be used to define the margin of diffuse astrocytoma.

• Portal vein invasion does not occur in liver metastases.

肝実験結果

Based on the popular “MythBusters” television show, the session deconstructed several common maxims about findings in adult and pediatric neurologic neoplasms, long bone tumors, mesenchymal neoplasms and cardiovascular disease.

“Some of our most cherished medical ‘facts’ are actually unproven or proven to be untrue,” explained presenter James G. Smirniotopoulos, M.D., diagnostic imaging program director at the Center for Neuroscience and Regenerative Medicine and a professor of radiology, neurology and biomedical informatics at Uniformed Services University of the Health Sciences (USUHS) in Bethesda, Md. “Critical thinking should always be used to evaluate medical information.”

Neuro Myths Negated

Dr. Smirniotopoulos busted the first myth: Intraaxial edema around an extraxial meningioma predicts a malignant histology.

“That can’t possibly be true, because the vast majority of meningiomas are non-malignant,” Dr. Smirniotopoulos explained. He revealed that 91 percent of meningiomas are World Health Organization Grade 1 and that 50 percent have vasogenic edema.

However, Dr. Smirniotopoulos noted, it is plausible that intraaxial edema predicts a poor prognosis. Edema seems to be related to resectability, he explained, and to what degree the meningioma will “stick” to the underlying brain. “If you leave some behind there is a chance of tumor recurrence,” he said. “Resectability is related to prognosis and, therefore, edema is indirectly related to prognosis.”

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Radiology-related Web Tools
Boost Search Capability

Search engines are evolving rapidly to suit the needs of radiologists, according to RSNA 2009 presenters.

During the session, “What are Radiologists Searching For? Obtaining Quality Information at the Desktop, Radiology-Specific Search Engines and Beyond,” one of the founders of the radiology-related medical search engine, Yottalock, said the site provides the most relevant information to medical imaging professionals as quickly as possible.

“When we first began in 2007, we wanted to create a search engine from scratch, but we quickly ran out of server capacity and we went with a hybrid approach instead, combining engines like Google, but indexing it for radiologists,” said Woon Kim, M.D., an assistant professor at the Hospital of the University of Pennsylvania. “We have focused on developing various technologies involved with index optimization and improving query analysis and query expansion.”

Among services offered by Yottalock, which is incorporated into myRSNA.org through the mySearch feature, is a journal search.

“When you search for something like ‘radiation dose,’ it gives you results only from radiology journals or from all medical journals if you choose,” Dr. Kim explained.

Yottalock Reader indexes the latest content continuously and allows the user to search for the latest industry news in the field. Yottalock Images allows radiologists to convert images to 3D. The site receives more than 106,000 visitors per year.

A presentation on STATdx and GoldMiner™, an image search engine created by Amirsys® Inc., was given by H. Ric Harnsberger, M.D., a professor in head and neck neuroradiology at the University of Utah and the CEO of Amirsys® Inc.

“A GoldMiner search generates a Google-type interface but also does much more,” Dr. Harnsberger said.

The free search engine can filter images dynamically by age, sex and imaging modality and combines search strategies using keywords and medical contexts.

GoldMiner’s image library draws from seven core journals and more than 250 other peer-reviewed journals. “It also offers outstanding performance and has fast retrieval and accurate search results,” said Dr. Harnsberger.

A presentation on STATdx, a diagnostic decision support system for imaging that provides point-of-care reference help and can be accessed from any location via the Internet, was given by Charles E. Kahn Jr., M.D., M.S., of the Medical College of Wisconsin in Milwaukee.

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Medical Response to a Major Radiologic Emergency: A Primer for Medical and Public Health Practitioners

In the event of a serious radiologic or nuclear emergency, medical facilities that remain open serve a vital role to care for injured people. Special care and/or handling will be needed for those with trauma, blast injuries or thermal burns as well as significant radiation exposure or contamination.

In the March issue of *Radiology* (RSNA.org/Radiology), Anthony B. Wolbarst, Ph.D., of the University of Kentucky Medical School in Lexington, and colleagues describe the medical responses needed following a radiologic or nuclear incident, including the symptoms and specific treatments for acute radiation syndrome and other early health effects. The authors also discuss:

- Types of radiologic health effects
- General radiation safety principles
- Protection of personnel
- Medical facility planning and training

The first rule of effective management is preparation, which requires that healthcare professionals become knowledgeable about various emergency scenarios and think through appropriate responses before they occur, Dr. Wolbarst and colleagues conclude.

“That is why it is essential for radiologists, radiation oncologists, nuclear medicine specialists, medical physicists and emergency physicians to make a serious effort to be prepared to confront and manage the healthcare response to any nuclear or radiologic emergency that might occur,” they write.

Postoperative Imaging in Liver Transplantation: What Radiologists Should Know

Because liver transplantation is now frequently used in the treatment of end-stage liver disease, it is important that radiologists be aware of common anastomotic techniques used in liver transplantation and be familiar with the imaging features seen in the liver transplant recipient.

In the March-April issue of *RadioGraphics* (RSNA.org/RadioGraphics), Ajay K. Singh, M.D., of Massachusetts General Hospital in Boston, and colleagues depict the spectrum of findings seen at ultrafast CT, MR imaging, cholangiography, angiography and scintigraphy in patients with posttransplantation complications involving the hepatic artery, portal vein, inferior vena cava and hepatic vein as well as biliary complications (biliary obstruction, cholestolithiasis, bile duct stricture, bile duct leak) and other complications. Specifically, authors:

- Describe anatomic techniques used in liver transplantation
- Identify normal posttransplantation imaging findings
- Discuss posttransplantation complications and their imaging characteristics

Imaging is useful for detection of early and late complications, as well as for long-term follow-up to assess transplant viability, the authors conclude.

“An understanding of potential posttransplantation complications and of the strengths and weaknesses of each imaging modality will aid in early diagnosis and promote timely therapy,” they write.

A dose-response relation for a deterministic effect in an organ or other tissue (as opposed to that for stochastic transformations in single cells) is usually sigmoidal in shape. At low doses, little if any damage occurs. Above an effective threshold—specific to the type of radiation, the tissue and biologic endpoint and perhaps the individual—the damage increases with dose until the tissue is fully nonfunctional.

“Adding annual MR imaging to annual mammography screening cost $74,896 for each additional QALY gained,” Dr. Lee and colleagues write. “Annual combined mammography and MR imaging screening provides the greatest life expectancy and is also cost-effective, when the value placed on gaining an additional QALY is in the range of $50,000–$100,000.”

### Cost-Effectiveness of Breast MR Imaging and Film Mammography for Screening BRCA1 Gene Mutation Carriers

In women who carry BRCA1 gene mutations, researchers have found that yearly mammography screening combined with MR imaging yields better life expectancy than either modality alone.

Jane M. Lee, M.D., M.S., of the Department of Radiology at Massachusetts General Hospital in Boston, and colleagues compared film mammography and MR individually and in combination using a simulation model in a cohort of 25-year-old BRCA1 carriers. Although combining the modalities had the highest cost, it resulted in the highest life expectancy as measured in quality adjusted life years (QALYs), researchers found.

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Radiation Dose from Single-Heartbeat Coronary CT Angiography Performed with a 320-Detector Row Volume Scanner

VOLUME-SCANNING TECHNIQUES can result in a dramatic reduction in radiation dose for patients undergoing coronary CT angiography, researchers have found.

By using 100-kVp volume scanning, effective dose from coronary CT angiography can be decreased by up to 91 percent in comparison with standard helical scanning, with no change in image noise,” wrote Andrew J. Einstein, M.D., Ph.D., of the Department of Medicine, Cardiology Division as Columbus University Medical Center and New York Presbyterian Hospital.

The researchers advise that when conversion coefficients are used to estimate effective dose from dose-length product, the coefficients should be appropriate for the scanner and modality used and reflect current tissue weighting factors.

Radiology in Public Focus

Press releases have been sent to the medical news media for the following articles appearing in the latest issue of *Radiology*.

### Media Coverage of Radiology

In January, media outlets carried 170 news stories generated by articles appearing in the print and online editions of *Radiology*. These stories reached an estimated 52 million readers.


March Public Information Activities Focus on Colorectal Cancer

To highlight National Colorectal Cancer Awareness Month in March, RSNA will distribute radio public service announcements (PSAs) encouraging listeners to be screened for colorectal cancer.

In addition, RSNA will distribute the “60-Second Checkup” audio program to nearly 100 radio stations across the U.S. The segments will focus on colorectal cancer topics, including early detection of colorectal cancer and the use of CT colonography.
RSNA 2009 Physics Modules
Available Online
Physics education modules introduced at RSNA 2009 are now available online free of charge to RSNA and American Association of Physicists in Medicine members. Designed to educate radiology residents about important concepts in physics, these self-guided modules include a testing feature that creates a comprehensive learning experience for the viewer.

Modules were developed by teams that include at least one physicist and one radiologist and are peer-reviewed for content and quality before being officially launched online. The goal is to provide a basic understanding of physics in the following areas: general imaging, radiography, mammography, CT and imaging processing, fluoroscopy, CT and imaging processing, fluoroscopy, interventional radiology. RSNA will release additional online physics modules in 2010. View these modules at RSNA.org/Education/physics.cfm. For more information on the physics modules, call 1-630-368-3753 or e-mail physical@rsna.org.

Point of Care CME Available This Spring
A new CME offering called Internet point of care (PoC) learning—a structured, self-directed, online learning avenue on topics relevant to clinical practice—will be available to RSNA members this spring.

To ensure that physicians can claim AMA PRA Category 1 Credit™ for PoC Learning, RSNA is creating an online tracking mechanism through myRSNA® that meets American Medical Association guidelines for the three-step PoC Learning cycle. Each time a point-related topic is researched using RSNA’s online evidence-based resource, 0.5 credits may be earned.

For more information, contact the RSNA Education Center at 1-630-590-7772 or e-mail ed-ctr@rsna.org.

RSNA Education Center CD-ROM Collections
RSNA Education Center’s new CD-ROM collections of refreshers courses from past RSNA annual meetings are available for viewing in the 2009–2010 product catalog. Go to RSNA.org/Education and click Education Center Store. Bundled into topical sets for easy reference, the collections allow members to build a comprehensive education library at a reduced price.

For more information on these products, contact the RSNA Education Center at ed-center@rsna.org or call 1-800-381-6660 x3753.

IHE® Connection Promotes Interoperability
A unique testing opportunity was offered to attendees of the 11th annual Integrating the Healthcare Enterprise (IHE) North America Connection held January 11–15 in Chicago to promote the adoption of standards-based interoperability by vendors and users of healthcare information systems. The health information technology industry’s largest interoperability testing event featured 498 engineers working with 104 vendors (an increase from 71 vendors in 2009). In all, more than 3,500 successful tests of IHE integration profiles were performed and verified at this year’s event.

Education and Funding Opportunities
RSNA Introduction to Research for International Young Academics
The RSNA Introduction to Research for International Young Academics program encourages young radiologists from countries outside the U.S. and Canada to pursue careers in academic radiology. The program consists of a special seminar held during the RSNA annual meeting. Eligible candidates are residents and fellows currently in radiology training programs or radiologists not more than two years out of training who are beginning or considering an academic career. Nominations must be made by the candidate’s department chairperson or training director. Fluency in English is required. Nomination forms can be found at RSNA.org/IRIYA.

RSNA Eyler Editorial Fellowship
Candidates are sought for the RSNA Eyler Editorial Fellowship, sponsored by the RSNA Publications Council and the Committee on International Relations and Education (CIRE). Named after William R. Eyler, M.D., a former editor of Radiology, the fellowship is designed to provide an opportunity for a mid-career radiologist to further his/her experience in radiologic journalism. Working with Radiology and Radiographics editors and RSNA publications staff, the fellow will learn about manuscript preparation, peer review, manuscript editing, journal production, printing and electronic publishing.

For more information regarding eligibility requirements and to apply, go to RSNA.org/Publications/editorial_fellowships.cfm.

Nominations Sought for Roentgen Resident/Fellow Research Award
The RSNA Research & Education Foundation seeks nominations for the Roentgen Resident/Fellow Research Award, designed to recognize and encourage outstanding residents and fellows in radiologic research. Each participating North America residency program will receive an award plaque with space to display a brass nameplate for each year’s recipient. The Foundation will also provide a personalized award for the department to present to the selected resident or fellow. The residency program director or department chair should identify one individual annually based on the following:

• Presentations of scientific papers at regional or national meetings
• Publication of scientific papers in peer-reviewed journals
• Receipt of a research grant or contributions to the success of a research program within the department
• Other research activities

Every resident/fellow in an Accreditation Council for Graduate Medical Education–approved program of radiology, radiation oncology or nuclear medicine is eligible. Nominations are limited to one resident or fellow per department per year. For more information, including the nomination form and a listing of past recipients, go to RSNA.org/Foundation/roentgen.cfm.

Molecular Neuroimaging Symposium
Hosted by SNM in conjunction with RSNA and the Society for Molecular Imaging, this symposium will focus on molecular imaging techniques including PET, SPECT and optical imaging. Among the topics to be addressed are:

• Nononcologic applications
• The blood-brain barrier
• Gene expression
• Hypoxia and proliferation
• Metabolic MR imaging
• PET probes for imaging tumor angiogenesis
• Systemic chemotherapy
• Adoptive immunotherapies of brain tumors

For more information, go to www.snm.org/brain2010

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The Board of Trustees of the RSNA Research & Education Foundation and its recipients of research and education grant support gratefully acknowledge the contributions made to the Foundation December 19 – January 22, 2010.
Annual Meeting Watch

Submit Abstracts for RSNA 2010
The online system to submit abstracts for RSNA 2010 is now open. The submission deadline is 12:00 p.m. Central Time on April 15, 2010. Abstracts are required for scientific presentations, education exhibits, applied science and quality storyboards.

To submit an abstract online, go to RSNA.org/abstracts.

The easy-to-use online system helps the Scientific Program Committee and Education Exhibits Committee evaluate submissions more efficiently. For more information about the abstract submission process, contact the RSNA Program Services Department at 1-877-776-2227 within the U.S. or 1-630-590-7774 outside the U.S.

INTERNATIONAL VISITORS
Start Visa Process Now
Personalized letters of invitation to RSNA 2010 are available for request at RSNA2010.RSN.org/Click International Visitors. This section of the annual meeting Web site also includes important information about the visa application process. Visa applicants are advised to apply as soon as they decide to travel to the U.S. and at least three to four months in advance of their travel date. It is recommended that international annual meeting attendees start the visa process now.

RSNA 2009 Media Coverage

Media Coverage of RSNA 2009
Research showing breast cancer can stay small and pose a swallowing risk and a study showing mammography may increase breast cancer risk in some high-risk women were among the 15 news conferences that drew the most media attention during RSNA 2009. More than 6,000 stories about RSNA 2009 have been carried by print, broadcast and online media outlets reaching more than 4 billion people.

News conferences at the annual meeting resulted in coverage in such publications as The New York Times, USA Today, Los Angeles Times and Chicago Tribune, as well as broadcast outlets including NBC Nightly News, CBS “Early Show” and CNN Headline News. Stories also appeared on Web sites including The New York Times and Wall Street Journal online editions.

RSNA 2009 Quality Storyboards Available Online
Selected RSNA 2009 Quality Storyboards detailing successful quality improvement projects that can help inspire and guide other institutions are available online at RSNA.org/Quality/storyboards/index.cfm.

More than two dozen Quality Storyboards were presented at RSNA 2009.

RSNA Continues on “Green” Path
RSNA’s commitment to hosting one of the industry’s greenest meetings proved successful based on the 2009 recycling analysis. The McCormick Place Tonnage Analysis for RSNA 2009 shows 155.7 tons of materials recycled with a diversion rate of 74 percent. McCormick Place, home to RSNA annual meetings since 1985, utilizes a waste disposal partner to sort waste and recyclables. A recycling education initiative encourages facility diversion rates and employs a system to improve the separation of construction-related waste.

Recycled items are fiber, wood, plastic and metal.

RSNA 2010 Registration Fees
by type of users
RSNA/AAPM Member
$1100
RSNA/AAPM Member Presenter
$900
RSNA Resident/Trainee
$700
Non-Member Resident/Trainee
$700
RSNA Member-in-Training, RSNA Student Member and Radiology Support Personnel
$700
Hospital or Facility Executive, Commercial Research and Development Personnel, Healthcare Consultant and Industry Personnel
$800

One-day registration to view only the Technical Exhibits
RSNA2010@RSNA.org for more information and RSNA2010@RSNA.org for more information. For more information about the annual meeting, contact the RSNA Program Services Department at 1-877-776-2227 within the U.S. or 1-630-590-7774 outside the U.S.

RSNA 2010 Deadlines
April 28
RSNA/AAPM member registration and housing open
May 26
General registration and housing open
June 30
Course enrollment opens
October 22
Deadline for international mailing
November 16
Deadline for foreign advance discounted registration, housing and course enrollment
November 28 – December 3
RSNA 96th Scientific Assembly & Annual Meeting

Product News

NEW PRODUCT
PACS for iPhone® Upgrade
CoActiv (www.coactiv.com) has released EXAM-PACS for iPhone® v. 2 with direct 3G/2G/EDGE connectivity for worldwide access to medical images on the popular handheld mobile device.

The release enables secure DICOM query/retrieve functionality and allows files to be pushed directly to the device over iPhone network connections. Once images arrive on the mobile device, they may be viewed using the full range of iPhone touch screen capabilities including scroll, pan, zoom and window/level and measurement functions. All manipulated and annotated images may be instantly saved locally on the device as JPG files and e-mailed or sent anywhere via messaging. The application is enabled by a bi-directional integration with the OsiriX Mobile viewer, which runs on the iPhone, requiring no additional software installation.

NEW PRODUCT
High-Volume Digital Radiography
Konica Minolta Medical Imaging (www.konaminolta.com) has released the new Xpress DR System, a total room digital radiography solution ideally suited for any high-volume radiography environment. The Xpress DR System configurations include both ceiling- and floor-mounted tube options. Additional options include fixed 17” x 17” receptors or portable 14” x 17” receptors to meet custom imaging workflow needs while staying within capital equipment budgets.

NEW PRODUCT
Mobile Cloud-based Image Access for Physicians and Patients
Acceleware, a leading provider of software and hardware solutions, introduces Mobile Cloud Image Access – a mobile cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform. The ultra-fast and convenient application runs through the mobile device’s browser with no additional software installation required. Authorized users simply log onto SentMyRadiology.com cloud-based imaging platform.
RSNA.org

RSNA Education Portal Keeps Members on Trend

When the media turns the spotlight on sensitive issues like the U.S. Preventive Services Task Force’s breast cancer screening recommendations and quality care concerns such as CT imaging dosages, RSNA members can stay informed on the latest developments through the RSNA Education Portal at RSNA.org/Education.

From self-assessment modules (SAMs) to Cases of the Day and refresher courses from RSNA annual meetings, the roster of free resources keeps members educated on the issues most critical to them.

For example, members can stay on top of breast cancer issues for Impact,” series of a peer-to-peer educational Webcasts “Industry for Molecular Imaging,” the next in the “Imaging

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For example, members can stay on top of breast cancer issues through these resources available on MOC and CME pages:

• SAMs, “Invasive Lobular Carcinoma and Breast MR Imaging”
• “Optimize Your Body MR Practice: Cutting-Edge Breast MRI,” an RSNA refresher course
• “Breast Cases of the Day”
• Stay ahead of the public’s quality care concerns through these MOC and CME page resources:

• SAMs “Image Quality Process, Data Integrity, and Printing Display QC into Practice” and “When the Physician is the Problem: CT Imaging-Dose Assessment in Clinical Practice,” an RSNA refresher course
• Selections from the Quality Initiatives section of Radiographics

From self-assessment modules (SAMs) to Cases of the Day and refresher courses from RSNA annual meetings, the roster of free resources keeps members educated on the issues most critical to them.

For example, members can stay on top of breast cancer issues through these resources available on MOC and CME pages:

• SAMs, “Invasive Lobular Carcinoma and Breast MR Imaging”
• “Optimize Your Body MR Practice: Cutting-Edge Breast MRI,” an RSNA refresher course
• “Breast Cases of the Day”
• Stay ahead of the public’s quality care concerns through these MOC and CME page resources:

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• Selections from the Quality Initiatives section of Radiographics

For more information, go to ami-imaging.org. dlevin@ami-imaging.org.

RSNA.org

RSNA News

NEWS YOU CAN USE

WebSite-ing

Molecular Imaging Webcast Set for April 27

“Industry for Molecular Imaging,” the next in the “Imaging

For more information, go to ami-imaging.org or e-mail dlevin@ami-imaging.org.

Answer (solution on page 3)

Fetal dose can vary according to protocols used but typically is less than 1 mGy for either study. This is well below the threshold for malformation or neurological detriment at all stages of gestation.

Q&A courtesy of AAMM.

Challenge Yourself

An interactive version of this puzzle at rsnaweb.org includes a timer and optional hints.

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HIS POTENTIAL INSPIRED A CT THAT USES LESS RADIATION.

Minimizing radiation exposure for every patient is important, especially children who may have multiple scans over the course of their lives. This potential inspired us to develop the Aquilion® ONE dynamic volume CT. With 16 cm of volume coverage, it can perform acquisitions 10 times faster than helical and with at least 30% less radiation. To lead, you must first listen.