

# RSNA *News*



## Study Demonstrates Effects of Secondhand Smoke on COPD

### Also Inside:

- Radiologists Obligated to Address Workplace Performance Issues
- Breast Imaging Innovation Evokes View-Master, 3D Movies
- Demand for Imaging Creating Ethical Dilemmas
- RSNA Scholar Pursues the Science of Expertise

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**Letters to the Editor**

E-mail: [rsnanews@rsna.org](mailto:rsnanews@rsna.org)

Fax: 1-630-571-7837

*RSNA News*

820 Jorie Blvd.

Oak Brook, IL 60523

**Subscriptions**

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E-mail: [subscribe@rsna.org](mailto:subscribe@rsna.org)

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## FDA Issues Alert on Radiofrequency Ablation-Related Deaths

**T**HE FDA recently issued an alert to healthcare professionals regarding reports of patient deaths associated with the use of radiofrequency (RF) ablation devices during lung tumor ablation. Patient selection, subsequent treatment and technical use of the RF device, including placement and operation, may have contributed to the fatalities, according to the FDA. The FDA noted that while RF ablation

devices have been cleared for general indications, the devices have not been cleared specifically for lung tumor ablation.

The FDA urged healthcare professionals to use caution when operating RF ablation devices, adhering strictly to information contained in the labeled operating instructions, operators manual, manufacturer's instructions for use and any training provided.



Additionally, if healthcare professionals plan to use RF ablation devices to treat patients with lung tumors, they should consider enrolling patients in an approved clinical study, where training is available, according to the FDA.

More information is available at [www.fda.gov/cdrh/safety/121107-rf-ablation.html](http://www.fda.gov/cdrh/safety/121107-rf-ablation.html).

### Image Gently Campaign Promotes Need to "Child-Size" Radiation Dose

With its Image Gently campaign launched in late January, the Alliance for Radiation Safety in Pediatric Imaging is aiming to turn concern about radiation dose to children into action.



Through a series of e-mails to members of alliance organizations—including one sent to RSNA members on Jan. 22—press releases, posters, news articles, editorials and other communications, the alliance is emphasizing that children may be more sensitive to radiation received from medical imaging scans than adults and that cumulative radiation exposure to their smaller bodies could have adverse effects over time. With an initial focus on CT scanning, the alliance recommends:

- "Child-sizing" the scan, as this

often reduces the amount of radiation used

- Not overscanning: scanning only when necessary, only the indicated region and only once, as multi-phase scanning is rarely helpful
- Involving medical physicists to monitor pediatric CT techniques and technologists to optimize scanning

In addition to targeting radiologists, medical physicists and technologists who image children as a very small part of their patient volume, the campaign will also target referring emergency department physicians, pediatricians, pediatric orthopedists and other physicians and will also reach out to parents.

More information on the campaign is available at [www.imagegently.org](http://www.imagegently.org).

### RSNA News Survey Under Way

RSNA is seeking feedback regarding *RSNA News* via a Web-based survey mailed to about 2,000 randomly selected RSNA members in late January. The 20-question survey seeks information about readers' interest in the various sections and format of the magazine and will guide future changes to the publication. Survey results will be reported in *RSNA News* later this year.

#### MEDICAL IMAGING COMPANY NEWS

##### Varian Acquires Pan-Pacific

Varian Medical Systems, of Palo Alto, Calif., has announced it will acquire Pan-Pacific Enterprises of Beijing for the purpose of marketing, sales and distribution of Varian X-ray imaging products in China.

Varian will acquire Pan-Pacific, the largest independent distributor of medical X-ray tubes in China, for approximately \$2 million. Pan-Pacific has been an independent distributor of imaging components, including Varian X-ray tubes, in China since 1991. Varian manufactures medical devices and software for treating cancer and other conditions with radiotherapy, radiosurgery, proton therapy and brachytherapy.

### World Leadership Council Meets at RSNA 2007

The council comprises leaders from major radiology societies around the world.

(Left to right) Barry Goldberg, M.D., Radiology Outreach Foundation; James P. Borgstede, M.D., American College of Radiology; Dave Fellers, C.A.E., RSNA; Hans Ringertz, M.D., Ph.D., International Society of Radiology; Hedvig Hricak, M.D., Ph.D. Dr. h.c., RSNA; Claude Manelfe, M.D., International Society of Radiology; Andy Adam, M.B.B.S., European Society of Radiology; Otha W. Linton, M.S.J., International Society of Radiology; Lenny K. Tan, M.D., Asian Oceanian Society of Radiology.



## Radiology Leaders Join Forces at RSNA 2007

The executive directors of more than two dozen radiology-related organizations met during RSNA 2007 to discuss common issues and concerns.



*(Front row, left to right)* Donald Swinbourne, Royal Australian & New Zealand College of Radiologists; Michael R. Mabry, Radiology Business Management Association; Angela R. Keyser, American Association of Physicists in Medicine; Dave Fellers, C.A.E., RSNA; Teri Saylor, North American Society for Cardiac Imaging; Alexander Yule, J.P., D.Sc., International Society of Radiographers & Radiological Technologists; Andrew Whitman, J.D., Medical Imaging & Technology Alliance; Susan Cappitelli, M.B.A., C.A.E., American Roentgen Ray Society. *(Back row, left to right)* Andrew Hall, Royal College of Radiologists; Jerry Reid, Ph.D., American Registry of Radiologic Technologists; Lynn May, C.A.E., American Society of Radiologic Technologists; Edward Cronin, M.B.A., C.A.E., American Healthcare Radiology Administrators; Gary J. Becker, M.D., American Board of Radiology; Peter Lauer, C.A.E., Society of Interventional Radiology; Bernhard Lewerich, Deutsch Röntgengesellschaft; David Schauer, Sc.D., C.H.P., National Council on Radiation Protection & Measurements; Renee Cruea, M.P.A., Academy of Radiology Research; Otha W. Linton, M.S.J., International Society of Radiology; Charles Shields Jr., Canadian Association of Medical Radiation Technologists; Patricia Russell, International Commission on Radiation Units & Measurements; William A. Gardner, M.D., American Registry of Pathology; Richard Evans, H.D.C.R., Society & College of Radiographers; Harvey Neiman, M.D., American College of Radiology.

The RSNA International Advisory Committee (IAC) advises RSNA on the impact that Society activities and programs have on international members and annual meeting attendees. Comments, questions and suggestions for the IAC can be sent to [IntlAdvCom@rsna.org](mailto:IntlAdvCom@rsna.org).

*(Front row, left to right)* RSNA President Theresa C. McLoud, M.D., IAC Chair Christian J. Herold, M.D., Austria; Lizbeth Kenny, M.B.B.S., Australia.

*(Back row, left to right)* Byung Ihn Choi, M.D., Ph.D., South Korea; Ji Qi, M.D., Ph.D., China; Renato A. Mendonca, M.D., Brazil; Maximilian F. Reiser, M.D., Germany; Philippe A. Grenier, M.D., France; Kazuro Sugimura, M.D., Japan; Ricardo D. Garcia-Monaco, M.D., Argentina. Not pictured is Jan Labuscagne, M.B.Ch.B., South Africa.



## Becker to Receive SIR Gold Medal

**T**HE Society of Interventional Radiology (SIR) has announced that 2008 RSNA President-elect **Gary J. Becker, M.D.**, will receive the society's gold medal at the SIR annual meeting March 15–20 in Washington.

Dr. Becker is a professor of vascular and interventional radiology at the University of Arizona College of Medicine and also executive director of the American Board of Radiology. The SIR award for outstanding paper presentation by a young investigator at the annual meeting is named for him.

Also receiving the gold medal will

be **Gary S. Dorfman, M.D.**, and **Mark H. Wholey, M.D.** Dr. Dorfman is vice-chair for research at the Weill Medical College of Cornell University. He is also a professor emeritus of diagnostic radiology at the Brown University School of Medicine and served as a special assistant to the associate director of the Cancer Imaging Program (CIP) of the National Cancer Institute and acting branch chief for image-guided interventions within the CIP.

Dr. Wholey is a clinical professor of radiology and chair of the Pittsburgh



**Gary J. Becker, M.D.**



**Mark H. Wholey, M.D.**

Vascular Institute in the Department of Radiology at the University of Pittsburgh Medical Center Shadyside.

### RADIATION SAFETY

## Question of the Day

**Q** A nurse asks, "In the intensive care unit, during a portable chest X-ray exam, how far away from the exam is far enough to avoid any radiation exposure?"

[Answer on page 26.]

### Radiologist Chairs AMA CPT Panel

**William T. Thorwarth Jr., M.D.**, a trustee of the RSNA Research & Education Foundation Board of Trustees, is the first radiologist to chair the current procedural terminology (CPT®) panel of the American Medical Association.

Dr. Thorwarth is the fourth chair of the panel since its inception in 1966. Dr. Thorwarth was first appointed to a full seat on the panel in 2003. He practices with Catawba Radiological Associates in Hickory, N.C.



**William T. Thorwarth Jr., M.D.**

### Hong Kong College Council Named

**Lilian F. Leong, M.D.**, is president of the council of the Hong Kong College of Radiologists for 2007–2008. Joining her on the council are:

- Chun-key Law, M.B.B.S., senior vice-president
- Hon-shing Lam, M.B.B.S., vice-president
- Peter H.K. Choi, F.R.C.R., warden



**Lilian F. Leong, M.D.**



**Brian S. Worthington, M.D.**

#### IN MEMORIAM:

### **Brian S. Worthington, M.D.**

**Brian S. Worthington, M.D.**, a British radiology leader who was named an RSNA honorary member in 2004, has died at the age of 69.

Recognized for his pioneering contributions to MR research, Dr. Worthington was

the first radiologist to be made a fellow of the Royal Society. He was also instrumental in helping define the role of ultra-high speed echoplanar MR imaging in clinical practice.

Dr. Worthington served nearly two decades as profes-

sor and head of the Department of Academic Radiology at the Queen's Medical Centre at Nottingham University and had been a professor emeritus since 1998.

**IN MEMORIAM:**

**Mortimer B. Hermel, M.D.**

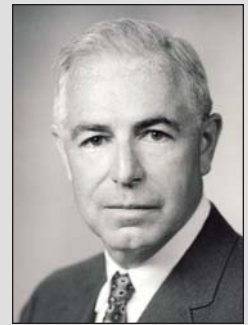
Prominent Philadelphia radiologist and researcher **Mortimer B. Hermel, M.D.**, died in September 2007 at the age of 92.

Throughout his career in Philadelphia, Dr. Hermel held professorships at the

University of Pennsylvania, Hahnemann Medical College and Thomas Jefferson University Medical School and practiced radiology at Albert Einstein Medical Center, Eagleview Hospital and in private practice. As a researcher, he

pioneered the use of X-rays to detect breast cancer.

Dr. Hermel served the U.S. Army as a medical officer in a Texas National Guard cavalry unit that was one of the last American mounted units.



**Mortimer B. Hermel, M.D.**



Send news about yourself, a colleague or your department to [rsnanews@rsna.org](mailto: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**

# Let's Speak Out for Radiology

**D**IAGNOSTIC imaging is more critical than ever to millions of clinical decisions made every day in this country. Even so, our clinical colleagues, medical center administrators, payors and the general public often seem to miss this point. They take for granted that radiologists will always be there when needed, that we are doing fine and that their support can be focused elsewhere.

Lack of visibility and appreciation for radiology exists despite strong efforts by RSNA, the American College of Radiology, American Roentgen Ray Society and other organizations to publicize the benefits and contributions of our discipline.

*My Turn*  
**ONE RADIOLOGIST'S VIEW**

RSNA has worked with ACR to create the *RadiologyInfo.org* Web site and also has a Public Information

Committee (PIC) and Public Information Advisers Network (PIAN).

RSNA staff and physician members of the PIC and much larger PIAN work year-round to put information about radiology into broadcast and print media. Physician members of the



**Philip O. Alderson, M.D.**

PIAN regularly make themselves available for media inquiries germane to their expertise.

It's time for each of us to do whatever we can in our local communities to publicize the many

high-quality radiology. This is particularly important in 2008, as a new leader will capture the White House. That leader and her or his party will undoubtedly focus on healthcare as one of this country's most important domestic issues.

It's time for us to get more engaged with the public and with the political process so that radiologists will be treated fairly in the coming healthcare realignment. It's time to speak out for radiology.

*Philip O. Alderson, M.D., chairs the RSNA Public Information Committee. Dr. Alderson is chair of the Department of Radiology at Columbia University in New York, director of the Radiology Service at Columbia-Presbyterian Medical Center and the James Picker Professor of Radiology at the College of Physicians and Surgeons of Columbia University.*

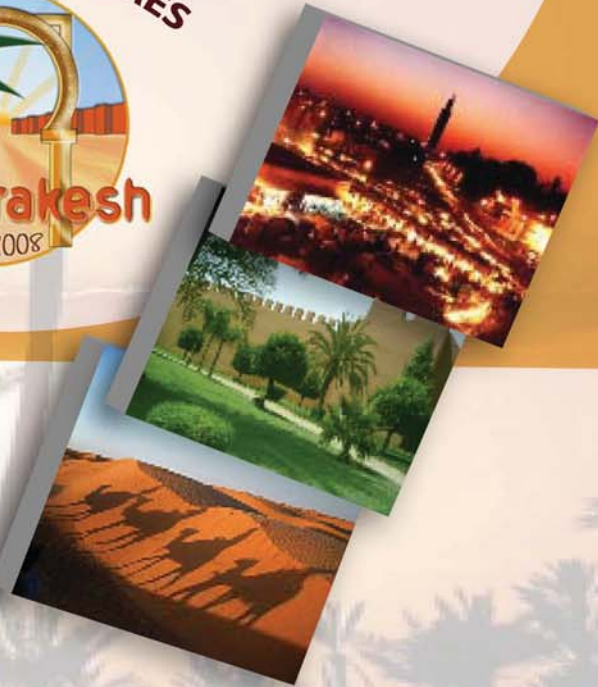
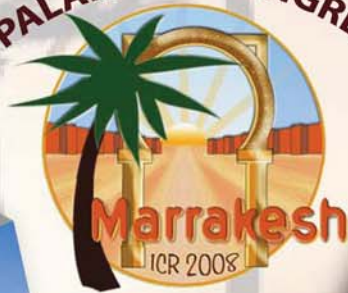
*It's time for each of us to do whatever we can in our local communities to publicize the many benefits of high-quality radiology.*

**Philip O. Alderson, M.D.**

UNDER THE HIGH PATRONAGE OF HIS MAJESTY KING MOHAMMED VI

## 25TH INTERNATIONAL CONGRESS OF RADIOLOGY

MARRAKESH, MOROCCO,  
JUNE 5-8, 2008  
PALAIS DES CONGRES



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Secretary office : Department of Radiology - Hospital Ibn Sina - Rabat, MOROCCO  
Phone : + 212 37 67 08 39 Fax : + 212 37 67 08 39 E-mail : [icr2008marrakesh@yahoo.fr](mailto:icr2008marrakesh@yahoo.fr)

[www.icr2008.org](http://www.icr2008.org)

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# RSNA Board of Directors Report

**A**T ITS MEETING during RSNA 2007, the RSNA Board of Directors celebrated the success of the Society's 93rd annual meeting and also looked forward to future annual meetings and other education initiatives.

## RSNA 2007

Attendance at RSNA 2007 was the highest in the history of the RSNA annual meeting. (Final audited numbers can be found in the Meeting Watch section on Page 26.) **Audience-response technology**, which helps instructors tailor courses to the audience's interests and competency level in real time, has proven popular with attendees and will be expanded at future meetings.

RSNA 2007 plenary sessions, including the opening session and New Horizons Lecture, are being developed for online presentation on *RSNA.org*. The **RSNA 2007 Image Interpretation Session on-demand** is already available at [www.welcome2theshow.com/rsna2007/register.asp](http://www.welcome2theshow.com/rsna2007/register.asp).

Making its debut at RSNA 2007 was a special program to highlight the radiologic science of a particular country. RSNA teamed with the Italian Society of Medical Radiology to offer **Italy Presents**, an Integrated Science and Practice (ISP) session featuring large multicenter screening studies. The program was extremely well received and RSNA looks forward to offering **Japan Presents** at RSNA 2008.

## Planning for RSNA 2008

Other **RSNA 2008** content has been determined as well. The opening session will be devoted to adult lifelong learning and medical simulation and

the New Horizons Lecture topic will be radiology engineering in the era of nanotechnology. Special focus sessions will address topics such as managing radiation risk, quantitative reporting in cancer imaging and musculoskeletal ultrasound.

The RSNA 2008 Categorical Course in Diagnostic Radiology will be devoted to cardiac imaging and the Categorical Course in Diagnostic Physics will address advances in CT and MR. The Bolstering Oncoradiologic and Oncoradiotherapeutic Skills for Tomorrow (BOOST) program will be expanded in its second year, with a focus on thoracic, head, neck and central nervous system, breast, prostate and gynecologic cancers.

RSNA 2008 promises **big changes in the technical exhibition**. Due to the need for more space for technical exhibits and expanded food service in all exhibit halls, technical exhibits will be featured in Hall D (Lakeside Center) as well as Halls A and B of the South and North Buildings. Scientific posters, education exhibits and other content currently located in the Lakeside Learning Center in Hall D will move down one floor to Hall E, across from the Arie Crown Theater. The RSNA 2007 technical exhibition, at 535,300 square feet, occupied a recordbreaking amount of space. More than 120 of the 758 companies were first-time exhibitors.

Always looking to better serve annual meeting attendees, RSNA continues to work on **increasing the number of hotel rooms available during the annual meeting** and also finding suitable uses for the new West Building at McCormick Place.



Hedvig Hricak, M.D., Ph.D., Dr. h.c.  
Chair, 2008 RSNA Board of Directors

## Other Education Initiatives

To help **radiology residents attain required physics knowledge**, RSNA has embarked on an 18-month project to work with the American Association of Physicists in Medicine (AAPM) to turn the AAPM curriculum into distance learning modules. Also in the works for residents is a **Web-based resident learning portfolio** to be ready by July 1. RSNA is working with the education committee of the Association of Program Directors in Radiology (APDR) to develop the portfolio, which will allow residents to document their activities as now required by the Accreditation Council for Graduate Medical Education.

RSNA has agreed to be one of the organizations working in a federated structure to plan the **World Molecular Imaging Congress** to be held Sept. 10–13 in Nice, France.

RSNA's efforts to promote the development of **imaging biomarkers and quantitative imaging** remain strong, with a focus now on facilitating



communication among the imaging response assessment teams (IRATs) and the National Institutes of Health Clinical and Translational Science Awards (CTSA) program. Both IRATs and CTSA support the use of imaging to enhance and streamline research to improve patient care and make new technologies and therapies available.

RSNA is urging pharmaceutical companies and equipment manufacturers to coordinate development of protocols and methodologies for imaging biomarkers and quantitative imaging. Envisioned is an effort similar to what the Integrating the Healthcare Enterprise (IHE®) initiative has done for informatics.

### Publications and Communications

RSNA hosted **more than 165 members of the medical media** at RSNA 2007. Of particular interest to reporters were press conferences about studies of the effects of secondhand smoke on chronic obstructive pulmonary disease, all-terrain vehicle injuries to children and increased radiation exposure in pregnant women (See Pages 8–9 and 13 for *RSNA News* coverage of these topics). News media also used RSNA 2007 as a backdrop for reaction to an article on CT and radiation exposure published in the Nov. 29, 2007, issue of *The New England Journal of Medicine*.

RSNA continues to analyze the results of a **recent *RadioGraphics* reader survey**. The survey indicated that, compared with seven other major radiology journals, readers believe *RadioGraphics* is the most popular and useful journal. Because some readers are unaware of all the features offered via the online version, RSNA is exploring ways to publicize these features more fully. A preview of the results appears on Page 23 and an article on the survey will appear in the March issue of *RSNA News*.

**The online features of *Radiology* will expand**, thanks to plans by new editor Herbert Y. Kressel, M.D. Included is an increase in social inter-



A new larger screen was introduced in the Arie Crown Theater at RSNA 2007. Some plenary sessions, including the opening session and New Horizons Lecture, are being developed for online presentation on *RSNA.org*.

action features such as message boards. RSNA has also announced plans to publish two supplements to *Radiology* in the coming year. Focus groups held during RSNA 2007 indicated that people are using *Radiology* and find it to be an objective, trusted source of information when compared with more commercial sources.

RSNA has approved a revised statement on medical professionalism. The statement emphasizes how professionalism is the basis of medicine's contract with society, placing the interests of society above those of the physician and setting and maintaining standards of competency and integrity. The statement can be viewed at [RSNA.org/About/professionalism.cfm](http://RSNA.org/About/professionalism.cfm).

### R&E Foundation

The RSNA Research & Education Foundation reports it now has **36 Pacesetters**, individuals who have committed to a new gift of \$25,000 or more before the Silver Anniversary Campaign celebration at RSNA 2009. Four people committed to becoming Pacesetters during RSNA 2007.

### Intersociety Collaboration

Leaders of many **radiology-focused societies in the U.S. and around the world** met during RSNA 2007 to discuss common goals, concerns and experiences (see Pages 1–2 for photos.) Thanks to an enthusiastic response during RSNA 2006 and RSNA 2007,

the American Board of Radiology has announced plans to offer board exams again during RSNA 2008.

RSNA also renewed its commitment to a leadership collaborative with the Association of University Radiologists, APDR and Society of Chairmen of Academic Radiology Departments and will continue managing the organizations as well. In addition, the **World Leadership Council**, made up of the heads of major radiology-related societies, focused on the results of an RSNA survey on educational outreach throughout the world. The RSNA Committee on International Relations & Education plans a Web page to compile information from radiology-related organizations throughout the globe.

**HEDVIG HRICAK, M.D., PH.D., DR. H.C.**  
CHAIR, 2008 RSNA BOARD OF DIRECTORS

■ Note: In our continuing efforts to keep RSNA members informed, the chairman of the RSNA Board of Directors will provide a brief report in *RSNA News* following each board meeting. The next RSNA Board Meeting is in March 2008.

# Study Demonstrates Effects of Secondhand Smoke on COPD

**A** NEW MR imaging protocol has been used to visualize the damage secondhand cigarette smoke inflicts on nonsmokers.

Researchers at the University of Virginia School of Medicine in Charlottesville and the Children's Hospital of Philadelphia used helium-3 ( $^3\text{He}$ ) diffusion MR imaging to study the lungs of 60 volunteers. Chengbo Wang, Ph.D., MR physicist in the Department of Radiology at The Children's Hospital, presented results at RSNA 2007, noting the team developed their technique to determine which nonsmoking patients either had, or showed, a tendency to develop chronic obstructive pulmonary disease (COPD). Fifteen to 30 percent of smokers develop COPD, according to Dr. Wang.

Dr. Wang described the challenge to develop a methodology that would be sensitive enough to pick up subtle changes in the lung tissue never before detectable. "For lung cancer and cardiovascular disease, there is some link with secondhand smoke," he said. "For COPD, there has been no research that could confirm this." Dr. Wang said he believes the team's early results confirm that secondhand smoke is a public health threat. Secondhand smoke is classified as a carcinogen by the Environmental Protection Agency and has been linked to heart disease, lung cancer and a number of respiratory illnesses including asthma and bronchitis.

A press conference Dr. Wang gave about his study was one of the best attended during RSNA 2007.

## Changes in Small Airways, Alveolar Sacs Detected

Fifteen adult participants in Dr. Wang's study were current or former smokers. Forty-five people had never smoked and 22 of them had a high level of exposure to secondhand smoke.

To utilize the long-time-scale, global  $^3\text{He}$  diffusion MR imaging employed by the researchers, patients inhaled a specially prepared helium gas before imaging. The scanner then collected images showing the gas in the patients' lung tissue. MR measured how far the helium atoms diffused inside the lungs during a 1.5 second breath-hold. Using these measurements, researchers detected changes deep in the small airways and alveolar sacs of the lungs—areas that can be destroyed, develop holes or become enlarged after prolonged exposure to cigarette smoke.

The group identified lung damage consistent with emphysema by measuring the increased distance the helium atoms moved—that is, diffused into the lung parenchyma. Those measurements were translated into apparent diffusion coefficient (ADC) values, with increased ADC values indicating the helium atoms were able to travel farther, or diffuse into more parenchyma, during the measurement period.

Researchers found that 67 percent



Chengbo Wang, Ph.D. (left), presented the results of his study in a scientific poster at RSNA 2007.

of the smokers and 27 percent of the nonsmokers who had high exposure to secondhand cigarette smoke had ADC values greater than 0.024, suggesting early lung damage was present, said Dr. Wang.

"We know the lung is a complex structure," he said. "We also know that lung function tests are not sensitive enough to pick up early damage. Currently the best method to detect COPD is CT. We noted that for some smokers, their lung function tests are just normal and healthy. In our pictures, the mean ADC didn't change a lot, but we could definitely see small, localized changes. The preliminary results indicate that the sensitivity of long-time-scale ADC measurements is clearly improved and is very helpful in catching early disease."

For the 27 percent of nonsmok-

*If people want research to prove there's harm from secondhand smoke, I feel we have begun to provide it.*

**Chengbo Wang, Ph.D.**

ers who had high ADC values, their early lung damage looked familiar to researchers, said Dr. Wang. “For some smokers, there is so much lung damage, we use CT and you can see the changes due to emphysema,” Dr. Wang said. “We observed that around 30 percent of the study group showed similar changes and we hypothesized this kind of change may represent mild emphysema. We need more study to confirm this.”

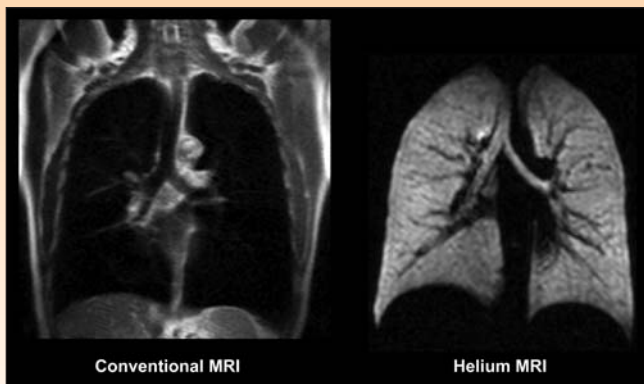
### Study Spurred Changes for Participants

The results of the trial were eye-opening for some study subjects as well. Dr. Wang related the experience of one woman who participated. “When she looked at her pictures she was very surprised,” he said. “She went home and asked her husband to quit smoking as soon as possible. Before, she thought the smoking only hurt him. Now it looks like the smoking also hurts her.”

Dr. Wang said he hopes even this small study will help to inform public policy on smoking. “With secondhand smoke, it is clear there’s damage to human health,” he said. “I really think public policy needs to reflect this and restrict smoking in public spaces. If

### ON THE COVER Hyperpolarized Helium MRI

Researchers at the University of Virginia School of Medicine in Charlottesville and the Children’s Hospital of Philadelphia used helium-3 (<sup>3</sup>He) diffusion MR imaging to visualize the damage secondhand cigarette smoke inflicts



on nonsmokers. Researchers were able to detect changes deep in the small airways and alveolar sacs of the lungs—areas that can be destroyed, develop holes or become enlarged after prolonged exposure to cigarette smoke.

Images courtesy of Chengbo Wang, Ph.D.

people want research to prove there’s harm from secondhand smoke, I feel we have begun to provide it.”

More and more states are considering tough anti-smoking laws. Statewide smoking bans went into effect in Minnesota on Oct. 1, 2007, and Illinois on Jan. 1, 2008.

■ Note: These articles were adapted from stories that appeared in the RSNA 2007 *Daily Bulletin*. The daily newspapers from the annual meeting are available online at [RSNA.org/bulletin](http://RSNA.org/bulletin).

**Daily  
Bulletin**

### Learn More

■ The RSNA 2007 education exhibit “Detection of the Changes in the Lungs of People who had High Exposure to Secondhand Cigarette Smoke Using Long-time-scale Global 3He Diffusion MRI” is available online to RSNA members and RSNA 2007 attendees. Go to [RSNA.org](http://RSNA.org) and select RSNA 2007 Online Education Exhibits and Posters from the Annual Meeting dropdown menu. Enter your RSNA member ID and password or RSNA 2007 badge number and last name to gain access. Select Chest from the communities menu on the lefthand sidebar, then type LL-CH4164 in the search box at the top of the page.

## Study of ATV Use by Children also Puts RSNA 2007 in Spotlight

ANOTHER popular RSNA 2007 press conference presented CT findings of many serious and some deadly injuries resulting from the use of all-terrain vehicles (ATVs) by children.



“The youngest patient in our series was 6 months ‘young’—he was riding with his mother,” said Chetan C. Shah, M.D., who presented “Imaging Findings in 500 Children Following All-Terrain Vehicle Accidents” during a scientific session. “Our youngest driver was 2 years ‘young’ and was driving a ‘child-size’ ATV.” He added that 95 percent of children involved in ATV accidents were driving adult-sized ATVs. Another 2-year-old driver, found unconscious beside a flipped vehicle, had a severe brain hemorrhage that left her with perma-

nent disability.

While ATVs can injure drivers of all ages, Dr. Shah maintained that use by children is intrinsically dangerous due to the instability of the vehicles and the children’s small size. While reducing the size and power of the vehicles and wearing helmets and protective clothing might limit injuries, he said, there remains the question of whether children should be riding ATVs at all.

The study included 345 boys and 155 girls admitted to Arkansas Children’s Hospital following ATV accidents. Children ranged in age from 6 months to 19 years, with an average age of about 11 years. Among the CT-detected head injuries were 85 skull frac-

tures, 66 cases of extra-axial hemorrhage and 59 brain injuries. Other injuries included 21 spine fractures, five spinal cord injuries and 36 pulmonary contusions. Femur fractures were the most common extremity fracture occurring in 208 children.

Injuries resulted in 12 traumatic amputations. Six fatalities were included in the study.

“If only a few parents could see these images, they might realize the danger and prevent their small children from using ATVs,” said Dr. Shah.

The abstract for “Imaging Findings in 455 Children Following All-Terrain Vehicle Accidents” is available at [RSNA2007.RSNA.org/rsna2007/V2007/conference/event\\_display.cfm?em\\_id=5009296](http://RSNA2007.RSNA.org/rsna2007/V2007/conference/event_display.cfm?em_id=5009296).

More details about media coverage of RSNA 2007 can be found on Page 23.

# Radiologists Obligated to Address Workplace Performance Issues

**H**ANDLING a fellow physician's substance abuse, depression, physical disability or age-impairments can be difficult and even require legal assistance, but all behavior that interferes with patient care must be addressed, said presenters of an interactive session at RSNA 2007.

The session, "When the Doctor Is the Problem: Dealing with the Disruptive or Impaired Physician," was sponsored by the RSNA Professionalism Committee and drew more than 130 attendees.

Alan C. Hartford, M.D., Ph.D., section chief for radiation oncology at Dartmouth-Hitchcock Medical Center in Lebanon, N.H., offered these examples of disruptive behavior: profane, disruptive or demeaning language, inappropriate notes in charts, lack of honesty or ethics and dangerous acts such as throwing things.

Dr. Hartford used clips from the 1954 film *The Caine Mutiny* to illustrate employees' responsibility to curtail disruptive behavior. The lesson, he said, is that the entire staff is responsible for ensuring patient safety while preserving the dignity of their colleague as best they can.

Inappropriate behavior can take the form of inappropriate radiology reports, including those that criticize other radiologists, said Carol M. Rumack, M.D. Employees working with an impaired physician have responsibilities, she said, and decisions should be made outside the group with administrative and legal assistance.

"Colleagues should address a problem with a physician immediately, beginning with a confrontation in pri-



While some physicians forced to leave their positions due to physical impairments are relieved to quit, others are reluctant to leave because of the value and structure their work brings to their lives, said panelist Marilyn Goske, M.D., of Akron Children's Hospital. The course was sponsored by the RSNA Professionalism Committee chaired by Leonard Berlin, M.D. (background).

vate," said Dr. Rumack, a professor of radiology and associate dean of graduate medical education at the University of Colorado Denver School of Medicine. Problem behavior should be monitored and documented, she added.

*Inappropriate actions must have significant consequences.*

**Carol M. Rumack, M.D.**

actions must have significant consequences," said Dr. Rumack.

## Substance Abuse Rates in Radiology Mirror Those in General Population

John P. Livoni, M.D., M.P.H., a professor of radiology at the University of California, Davis, said rates of substance abuse for radiologists are similar to or slightly higher than those of the general population, with an estimated

3,000 radiologists per year reported as having substance dependencies. The prevalence of substance abuse varies among specialties, said Dr. Livoni, but factors including easy access to drugs and high or "catastrophic" stress tend to contribute to physician problems.

Alcohol abuse is a concern that probably goes underreported, added Dr. Livoni.

All states have procedures to identify and treat dependent physicians, he said, adding that impaired physicians typically won't seek help on their own. "It's a violation of an unwritten contract that physicians enjoy with colleagues," he said.

Physicians have a duty to avoid patient injury, said Leonard Berlin, M.D., chair of the RSNA Professionalism Committee. If a physician violates

that duty and a hospital fails to take sufficient actions against a physician's inappropriate behavior, a jury can find the hospital responsible, said Dr. Berlin, a professor of radiology and chair of the radiology department at Rush North Shore Medical Center in Skokie, Ill.

### Physical, Mental Impairment Also Issues

Depression also can contribute to physician impairment, said Stephen D. Brown, M.D., a radiologist at Children's Hospital Boston and assistant professor of radiology at Harvard Medical School. "Depression is its own condition and it can also compound with other conditions," said Dr. Brown. "Colleagues should avoid playing the psychologist and making diagnoses."

Dr. Brown noted that because of the stigma associated with mental illness, physicians are more likely to report substance abuse than psychological impairment.

When the cause of impairment is physical, colleagues are often sympathetic until the impairment affects them, said Marilyn J. Goske, M.D., a radiologist at Akron Children's Hospital. When co-workers are compelled to work longer shifts or otherwise compensate for a physician's inability to work because of chronic illness, she said, the physician often faces a subtle negative attitude in the workplace.

Physicians forced into leaving their positions because an illness impedes work generally respond in one of two ways, Dr. Goske said. "Either they are relieved to quit or they are reluctant to quit because the work gives their lives value and structure," she said.

Dr. Goske cited a case in which a colleague informed a quality assurance committee about discrepancies in performance by a physician impaired by chronic illness. After the committee ignored the complaint, said Dr. Goske, the colleague notified the institution's insurance provider, which threatened to withdraw coverage if the problem was not addressed.



Colleagues must address a problem with a fellow physician immediately, said panelist Carol M. Rumack, M.D. (left), of the University of Colorado Denver School of Medicine. Panelist John P. Livoni, M.D., M.P.H., of the University of California, Davis, said rates of substance abuse for radiologists are similar to or slightly higher than those of the general population.

### Age-Related Impairment Cannot Be Ignored

Richard Gunderman, M.D., Ph.D., noted the natural decline in visual acuity and certain cognitive functions such as working memory, multitasking ability and reasoning speed as a person ages. Other abilities such as vocabulary, general knowledge and occupational expertise remain steady—or improve, if education continues—and "crystallized intelligence" continues to increase until age 60 or 70, said Dr. Gunderman, an associate professor of radiology, pediatrics, medical education, philosophy, liberal arts and philanthropy at Indiana University Purdue University Indianapolis (IUPUI).

When an age-related impairment affects physician performance, associates should assess whether it significantly affects patient safety, which must always be the priority, said Donald Bachman, M.D., a radiologist at MetroWest Medical Center in Framingham, Mass.

"Cognitive function can be impaired by a number of factors including depression, stress and substance abuse," said Dr. Bachman. "These impairments are reversible, but dementia is not."

Involved physicians should also consider that the problem may be clouded by personality conflicts, added Dr. Bachman. "The approach may depend on group dynamics and hierarchy," he said. "The group should explore solutions through negotiation. If the colleague is not cooperative, you

should bring in a third party. Always document the steps taken."

Dr. Bachman pointed out that simple modifications may be in order in some cases, where disabilities might be accommodated by adjusting workplace conditions such as light levels.

If the impairment has an adverse effect on patient care and cannot be reversed, said Dr. Bachman, the physician should be offered reduced or altered responsibilities or a dignified exit strategy. "The average retirement age for a radiologist is 64 years—2 years older than that of the average U.S. worker," he said. He added that 57 percent of radiologists report wanting to work part-time before retirement.

Quality assurance programs, self-assessment modules and other tools to periodically measure performance are important for all physicians, the session presenters concluded. "Programs like these should be available for all employees," said Dr. Bachman. □

### Professionalism Courses Expanded for RSNA 2008

In addition to offering "When the Doctor Is the Problem: Dealing with the Disruptive or Impaired Physician" again at RSNA 2008, the RSNA Professionalism Committee is planning another course focusing on ethical relationships among radiologists and radiologists' relationships with nonradiologic physicians, patients, radiologic manufacturers, research companies and scientific publications. More details about the new course will be published in an upcoming issue of *RSNA News*.

# Breast Imaging Innovation Evokes View-Master, 3D Movies

**R**ESearchers at Emory University Breast Clinic in Atlanta report using 3D technology to help detect more breast cancers with fewer false positives.

The new stereoscopic digital mammography system is very much like seeing a picture from the View-Master children's toy or while wearing polarized 3D glasses, said lead researcher David J. Getty, Ph.D. "The image just leaps out at you," he said.

In an RSNA 2007 presentation, "Improved Accuracy of Lesion Detection in Breast Cancer Screening with Stereoscopic Digital Mammography," Dr. Getty discussed interim results of an ongoing clinical trial. He is a division scientist at BBN Technologies of Cambridge, Mass. BBN Technologies and Planar Systems developed the stereoscopic system to help radiologists see the internal structure of the breast.

Stereoscopic digital mammography acquires two digital radiographs of the breast, separated by about 8 degrees. The mammographer's visual system can then fuse the images at the workstation to view the breast in 3D. In the study presented by Dr. Getty, researchers used a full-field digital mammography unit slightly customized to acquire images in pairs.

"Standard mammography is one of the most difficult radiographic exams to interpret," said Dr. Getty, who has been developing the project for 12 years. "In a 2D image of the breast, subtle lesions may be masked by underlying or overlying normal tissue and can be missed. Normal tissue located at different depths can align, mimicking a lesion, leading to false-positive findings."

*The image just leaps out at you.*

David J. Getty, Ph.D.



David J. Getty, Ph.D., tests the stereoscopic system he helped to develop to aid radiologists in seeing the internal structure of the breast. Stereoscopic digital mammography acquires two digital radiographs of the breast, separated by about 8 degrees. The mammographer's visual system can then fuse the images at the workstation to view the breast in 3D.

Photo courtesy of BBN Technologies.

## 80 Percent Reduction in Missed Lesions Reported

As of July 2007, 1,093 patients at elevated risk for developing breast cancer were enrolled in the study. Each patient received full-field standard mammography and a full-field stereoscopic digital exam. Images were interpreted independently by different radiologists. In all, 259 suspicious findings were found by one or both procedures. Additional diagnostic tests, including biopsy, were also administered.

Of the 259 suspicious findings, 109 were true lesions. Standard mammography missed 40 of the 109 while the stereoscopic exam missed 24. Standard mammography missed 20 of 41 calcifications while stereo mammography missed only four—an 80 percent reduc-

tion in missed lesions.

The findings suggest that stereo digital mammography could lead to earlier detection of cancer, said Dr. Getty. "A small percentage of the additional lesions missed by standard mammography but detected by stereo mammography will turn out to be cancerous," he said.

There were 150 false positives among the 259 suspicious findings. Standard mammography detected 103 and stereo mammography 53. "Stereo digital mammography reduced false positives by 49 percent," said Dr. Getty. "This could have a significant impact by cutting in half the number of women who are needlessly recalled for additional diagnostic workups, resulting in reduced costs and reduced patient anxiety."

The trial recently ended with close to 1,500 women at elevated risk of

breast cancer having received both screening exams. Final results will be issued soon, Dr. Getty said.

### Equipment Advances Facilitate Stereo Technique

Institutions interested in participating in such research could easily update their equipment at a relatively low cost, said Dr. Getty. For the Emory study, researchers modified a collimator to improve the image. "With minor changes, most digital mammography equipment, or even a film mammography unit equipped with a digital cassette, is perfectly capable of taking stereo images," he said.

Other hospitals seeking to acquire the stereoscopic equipment may soon get help from manufacturers. Dr. Getty said three manufacturers are creating

breast tomosynthesis machines with motorized movement of the X-ray tube, making it possible to automatically acquire stereo image pairs.

While the breast tomosynthesis unit could be used to acquire stereo mammograms, the basic intent of breast tomosynthesis is to reconstruct a stack of image sections through the breast, very much like a breast CT, said Dr. Getty. He said he now looks to improve standard scrolling through the stack of image sections by giving radiologists a stereo view through the volume of sections. If the technology works, he said, radiologists could selectively view only a "slab" of sections, rendering the remainder of the breast "invisible." The slab could be moved interactively through the volume and the radiologist could even move the stereo point-of-

view around to look at the tissue from different directions, he said.

"This could be incredibly powerful, with stereo viewing complementing the strengths of the viewing of individual tomosynthesis sections," Dr. Getty said. "The possibilities are very exciting." □

### Learn More

■ The abstract for "Improved Accuracy of Lesion Detection in Breast Cancer Screening with Stereoscopic Digital Mammography" is available at [RSNA2007.RSNA.org/rsna2007/v2007/conference/event\\_display.cfm?em\\_id=5002357](http://RSNA2007.RSNA.org/rsna2007/v2007/conference/event_display.cfm?em_id=5002357).

■ Note: These articles were adapted from stories that appeared in the RSNA 2007 *Daily Bulletin*. The daily newspapers from the annual meeting are available online at [RSNA.org/bulletin](http://RSNA.org/bulletin).

**Daily  
Bulletin**

## Concern Raised Over Increasing Number of Radiologic Exams on Pregnant Women

**A**NOTHER study presented at RSNA 2007 indicated that the number of imaging studies using radiation in the pregnant population jumped by more than 125 percent in the last decade.

Elizabeth Lazarus, M.D., discussed the results of the 10-year retrospective study to document the utilization of radiologic examinations in pregnant women at the Warren Alpert School of Medicine at Brown University in Providence, R.I.

Concerns about radiation exposure, imaging overuse and rising healthcare costs make it important to track utilization patterns, said Dr. Lazarus, and the pregnant population is of particular concern. "This patient population is vulnerable to adverse effects created by increased radiation," she said. "Fetal risks include central nervous system defects, increased incidence of childhood leukemia and other malignancies. There is a maternal risk associated with breast radiation."

At Brown University, every pregnant woman exposed to radiation during an imaging exam—whether an inpatient, outpatient or emergency department patient—is recorded in a database. A technologist completes a form for each one who receives a study with ionizing radiation and an estimated fetal radiation dose is calculated by a

physicist. The forms are kept as a permanent record.

According to the study, 5,235 radiology examinations were performed on 3,249 pregnant patients between 1997 and 2006. Imaging tests included in the study were plain film radiography, nuclear medicine exams and CT. Fluoroscopy and interventional radiologic procedures were initially counted but later eliminated due to the small number of exams.

While the number of deliveries rose from 8,661 to 9,261, or 7 percent, during the study period, the number of pregnant patients increased by 94 percent and the total exam volume increased 125 percent.

The average yearly percent change was 6.8 percent for plain film and 17 percent for nuclear medicine, said Dr. Lazarus. The greatest average change, she said, was for CT at 25 percent each year. CT also results in the greatest amount of radiation exposure, she noted.

For all exams, the estimated radiation doses ranged from <0.01 to 40 mGy. These doses are below the medically allowable threshold during pregnancy of 50 mGy, said Dr. Lazarus.

"The two types of CT exams that have increased the most in utilization during our study, head and CT pulmonary angiography, have the lowest radiation doses to the fetus,"

she said. However, CT of the abdomen and pelvis with fetal exposure, averaging 20 mGy, also had large increases in volumes, she said.

"Doctors should use this information to explore other imaging modalities that don't impart radiation," Dr. Lazarus said. "While CT can be a safe, effective test, pregnant patients should ask their doc-

tors about other imaging or diagnostic tests that will not expose the fetus to radiation."

Dr. Lazarus said she hopes other institutions look at their own statistics as well. "I'm interested to see if they can duplicate them or if they come up with different results," she said.

The abstract for "Utilization of Radiological Examinations in Pregnant Women: A Ten Year Review—1997-2006" is available at [RSNA2007.RSNA.org/rsna2007/v2007/conference/event\\_display.cfm?em\\_id=5001944](http://RSNA2007.RSNA.org/rsna2007/v2007/conference/event_display.cfm?em_id=5001944).



Elizabeth Lazarus, M.D.

# Demand for Imaging Creating Ethical Dilemmas

**H**UGE GROWTH and rapid developments in imaging are creating ethical questions regarding which physicians should be performing and interpreting imaging studies, as well as questions about appropriate billing and self-referral.

Three researchers from Thomas Jefferson University in Philadelphia outlined results from studies of imaging utilization during an RSNA 2007 session. During his opening remarks, David Levin, M.D., described the conflict of interest that arises when physicians own or have financial interest in imaging equipment.

“When another doctor refers a patient to a radiologist, the likelihood is that the patient really needs the study,” said Dr. Levin, a professor of radiology. “The doctor has no financial incentive to order it, because the doctor doesn’t make any money by ordering the test. If a physician owns an MR scanner, there is a conflict of interest, because the physician stands to gain by self-referring that patient.”

Dr. Levin updated the audience on ways the federal and state governments, as well as the legal and legislative systems and some payors, are working to curtail the practice of self-referral among physicians utilizing medical



David C. Levin, M.D., of Thomas Jefferson University, outlined some of the ways that federal and state governments, the legal and legislative systems and some payors are working to curtail the practice of self-referral among physicians utilizing medical imaging.

imaging. Maryland has a law outlawing such self-referral for MR and CT (see sidebar), he said, while a quality assurance program in New Jersey significantly reduced utilization among non-radiologist imagers. Medicare policies for 2008 will impact radiologists’ reading contracts and non-radiologists’ scan-lease arrangements, he said.

## Utilization Increased in All Specialties

Vijay Rao, M.D., chair of the radiology department, further explored the growth of imaging in her review of 2000–2005 Medicare patient files. “If you look at

total Medicare payments for noninvasive diagnostic imaging over five years, it’s grown by 93 percent,” she said. She reported finding steady increases in utilization among all specialties, noting, “Physicians who own equipment are doing their own imaging and utilize two to seven times more than physicians who do not own equipment.”

Dr. Rao reported growth in overall diagnostic imaging at 25 percent, with radiologists seeing a 22 percent increase. Of other specialties, “Cardiologists really stood out,” she said. Cardiologists saw a growth in utiliza-

## Economic Motivation Fuels Self-Referral, Study Finds

Physicians making self- or same-specialty referrals are as much as 200 percent more likely to order an imaging procedure than are physicians referring to radiologists, according to a study published in the November 2007 issue of *Radiology*.

G. Scott Gazelle, M.D., M.P.H., Ph.D., and colleagues at the Institute for Technology

Assessment in the Massachusetts General Hospital Department of Radiology analyzed data from a nationwide, employer-based health plan with about 4 million members. Physicians who had seen at least six patients in at least one of six condition/imaging pairings between 1999 and 2003 were included in the study.

Researchers compared only

those physicians who referred all patients to themselves or members of their own specialty with physicians who referred all patients to radiologists.

“The magnitude of our findings and their consistency with those of other studies suggest that financial incentives may play



a role [in greater utilization],” Dr. Gazelle and colleagues concluded.

“Utilization of Diagnostic Medical Imaging: Comparison of Radiologist Referral versus Same-Specialty Referral” can be accessed online at [radiology.rsna.org/cgi/content/full/245/2/517](http://radiology.rsna.org/cgi/content/full/245/2/517).



tion of 65 percent, she said.

“It’s about three times the rate for other specialties,” said Dr. Rao of the increase in cardiologist utilization. “That sort of raises a red flag as to why.” Those facts are of particular concern for policymakers and payors who struggle with increasing demand and astronomical costs, she said. “Clearly imaging is growing at a very fast rate and I think we need to look at the total picture,” she added.

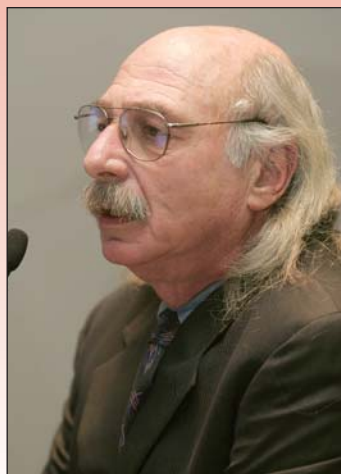
### Geographical Location Makes Big Difference

Laurence Parker, Ph.D., director of health services and outcome research for the Department of Radiology, took a geographic approach, examining MR imaging utilization among Medicare patients throughout the U.S. and its territories. He found that Delaware, Florida, Alabama, Maryland and Texas had the highest utilization, while Montana, Iowa, North Dakota, Virgin Islands and Hawaii had the lowest.

“It’s not a surprise that Florida is at the top, because this is a Medicare population and it’s geared toward retirees,” said Dr. Parker. “With Dela-

ware and Maryland, you’ve got states that are adjacent to places like D.C. and Philadelphia. It would be interesting to look at these claims again by provider location and see if the results change.

“As far as Alabama and Texas go,



Laurence Parker, Ph.D. (left), and Vijay M. Rao, M.D., both of Thomas Jefferson University, discussed their studies of medical imaging utilization by specialty and geographic area.

*Physicians who own equipment are doing their own imaging and utilize two to seven times more than physicians who do not own equipment.*  
Vijay Rao, M.D.

the Centers for Disease Control and Prevention does maps of chronic disease incidence rates and the southeastern states appear to have very high rates,” continued Dr. Parker. He said he believes his study results confirm overall presumptions about medical care and its availability. “The very large differences in rates of utilization should be investigated, because it may mean that standards of care are different,” he said.

In an effort to keep health costs down and control quality, many states currently require a certificate of need (CON) to acquire MR imaging, CT, ultrasound and radiation therapy equipment. A study comparing imaging utilization among states with and without CON programs would be warranted, said Dr. Parker. □

### Learn More

- The abstract for the RSNA 2007 presentation “Recent Changes in the Utilization Rates of Noninvasive Diagnostic Imaging (NDI) among Radiologists, Cardiologists, and Other Specialties” is available at [rsna2007.rsna.org/rsna2007/V2007/conference/event\\_display.cfm?em\\_id=5003176](http://rsna2007.rsna.org/rsna2007/V2007/conference/event_display.cfm?em_id=5003176).
- The abstract for “Variation across States in Magnetic Resonance Imaging Utilization in the Medicare Population: 2004” is available at [rsna2007.rsna.org/rsna2007/V2007/conference/event\\_display.cfm?em\\_id=5002821](http://rsna2007.rsna.org/rsna2007/V2007/conference/event_display.cfm?em_id=5002821).

Note: This article was adapted from a story that appeared in the RSNA 2007 *Daily Bulletin*. The daily newspapers from the annual meeting are available online at [RSNA.org/bulletin](http://RSNA.org/bulletin).

**Daily Bulletin**

## Debate Continues Over Maryland Self-Referral Law

AN APPEALS COURT will take up questions regarding the interpretation of a 1993 Maryland law prohibiting physicians from referring patients to diagnostic entities in which they have a financial stake.

As first reported by the American Medical Association’s *AMNews* on Dec. 17, 2007, a Maryland circuit court ruled last October that the statute—modeled on the federal Stark law—bans non-radiologists from refer-

ring patients within their practices for CT, MR and radiation therapy services. The circuit court heard the case after a group of 14 medical practices challenged the Maryland Board of Physicians, saying imaging is included in exceptions to the law allowing in-office referrals for ancillary tests.

In denying the challenge, the court stated that the statute’s definition of ancillary services excludes MR and CT for all physicians

except radiologists. Appealing to a higher court, the plaintiffs maintain that the circuit court’s ruling is effectively a total ban on in-office imaging by non-radiologists, even though state and federal policy deem it proper under certain circumstances. The court ruling could have a significant financial and quality of care impact on physicians and patients, the plaintiffs told *AMNews*.

# RSNA Scholar Pursues the Science of Expertise

**A**N RSNA education scholar is broadening the understanding of what it takes to be an expert radiologist.

Beverly P. Wood, M.D., Ph.D., M.S.Ed., a professor of radiology, pediatrics and medical education at the University of Southern California's Keck School of Medicine, is now an authority on perceptual expertise in radiology. Her work in the area began in 2000 with an Educational Scholar Grant from the RSNA Research & Education (R&E) Foundation to pursue a project called "Development of Training for Expertise in Radiology."

The R&E-funded work formed the basis for Dr. Wood's doctoral dissertation in educational psychology and technology, which focused on perception, perceptual learning and perceptual expertise.

"At the time there had been little research on expertise in radiology but interest was growing in looking at comprehension and reasoning in medical expertise," said Dr. Wood. "The time seemed ideal to begin a comprehensive analysis of radiologists' concept formation, use of data, reasoning and decision making for use in designing educational methods for specialty training."

Dr. Wood's project looked at how the perceptions of experts differed from those of novice and intermediate-level trainees when interpreting radiographs. More specifically, she studied the cognitive performance of all three groups to determine the mental models, cognitive schemata and strate-

gic mechanisms employed by physicians at each level of training and experience, with respect to their development and use of complex cognitive skills in decision making and diagnosis.

Not surprisingly, the experts proved to be faster, more accurate and more focused with their diagnoses.

"Her work boldly challenged assumptions that experience outweighs recency in education," said Linda Hagedorn, Ph.D., Dr. Wood's dissertation chair and now professor and chair of the Department of Educational Administration and Policy at the University of Florida College of Education. "On the other hand, she also challenged the assumption of the advantages of youth and its accompanying dexterity, memory and energy."

Dr. Wood said she is now interested in revisiting the subject to look more closely at how medical history influenced the experts' diagnoses. "The novices and intermediates were much

*Radiology often doesn't do a very good job of training people to communicate beyond dictation of studies. ... We need to be able to communicate well with patients, their families and our consulting physicians.*

**Beverly P. Wood, M.D., Ph.D., M.S.Ed.**

more influenced by the clinical context," she said. "The experts really didn't care—they were accurate without being given any clinical history at all."

In 2006, after completing her dissertation, Dr. Wood received an Educational Radiology Research Development Grant sponsored by RSNA, the Association of University Radiologists, Association of Program Directors in Radiology and Society of Chairmen of Academic Radiology Departments. She used the grant



**Beverly P. Wood, M.D., Ph.D., M.S.Ed.**  
University of Southern California

to develop a comprehensive communications training program for radiology residents.

Dr. Wood and her team developed four scenarios in which residents would need to communicate with patients or families. Included were delicate situations such as disclosing a medical error or other bad news, handling patients who are emotional and angry at the medical system and dealing with patients who are nervous about treatment.

To assess the effectiveness of her communications training, Dr. Wood placed two groups of residents in these clinical scenarios using a set of trained standardized patients. One group of residents had taken the course and the other had not.

"The residents who had taken the communications course did extremely well and were rated very highly by the standardized patients," said Dr. Wood. "While the residents in the other group rated themselves highly, they were not rated highly by the standardized patients, who thought that their commu-

nications skills were lacking.”

Today, Dr. Wood is turning her program into a training module. “We’re working on a training kit with a CD that will provide the scenarios and demonstrate how to train the standardized patients,” she said. “We’re hoping to generalize the program well enough to be able to share it with other schools around the country.

“Radiology often doesn’t do a very good job of training people to communicate beyond dictation of studies, which is too limited,” Dr. Wood continued. “We need to be able to communicate well with patients, their families and our consulting physicians.”

In addition to teaching and working on myriad ongoing research projects, Dr. Wood travels, lectures and publishes extensively on perceptual expertise. She has received numerous awards, including the gold medals of the Society for Pediatric Radiology and American Roentgen Ray Society. Dr. Wood is also active in a number of professional organizations, including RSNA and the American Academy of Pediatrics, where she heads the continuing medical education program.

“Dr. Wood exhibits the best of all worlds,” said Dr. Hagedorn. “She applies the experience of her extensive career, juxtaposed with concurrent and lifelong education.” □



### RSNA Research & Education Foundation Roentgen Resident/Fellow Research Award

#### Deadline for nominations—April 1

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 American 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 crystal award for the department to present to the selected resident or fellow.

The residency program director or the 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 past recipients, go to [RSNA.org/Foundation/RoentgenResidentFellow\\_ResearchAward.cfm](http://RSNA.org/Foundation/RoentgenResidentFellow_ResearchAward.cfm).

## Study: Women Leave Sciences Due to Family Obligations and Lack of Confidence

**W**OMEN scientists are not pursuing advanced research careers because of a heavier burden of family responsibility and lower confidence compared to men, according to a study by the National Institutes of Health (NIH) of its own research staff.

The results appeared in the November 2007 issue of the *EMBO Reports*.

The study indicated that although women comprise nearly half of all undergraduate, graduate and postdoctoral scientists nationwide, after committing 10 to 15 years to scientific training, many leave academic research during the career transition to faculty or tenured positions.

At NIH, only 29 percent of the tenure-

track principal investigators (PI) and 19 percent of tenured PIs—the NIH equivalent of assistant and full professors, respectively—are women. The figures have barely changed over the last decade.

“There’s a great brain drain occurring at research institutions across the country as women fall off the tenure track,” said NIH Director Elias A. Zerhouni, M.D. “The reasons, we found, are deep-seated and numerous. This study is a step forward in remedying the problem.”

The study was conducted by the Second Task Force on the Status of NIH Intramural Women Scientists. More than 1,300 of the 2,400 male and female postdoctoral research-

ers at the NIH responded to a survey.

“Our findings suggest that the loss of talented women from the research track can be reduced by mentoring and a change in the scientific culture to accommodate the needs of both women and men who wish to combine family and scientific careers,” said Orna Cohen-Fix, Ph.D., a corresponding author of the report and senior investigator at the National Institute of Diabetes and Digestive and Kidney Diseases.

More information about the study can be found at [www.nih.gov/news/pr/oct2007/od-31.htm](http://www.nih.gov/news/pr/oct2007/od-31.htm).



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# \$1.5 Million R&E Gift Honors Derek Harwood-Nash

**A** \$1.5 MILLION donation to the RSNA Research & Education (R&E) Foundation will endow a new Scholar Grant in memory of Derek Harwood-Nash, M.B., Ch.B., D.Sc. Paul E. Berger, M.D., said he made the donation to honor his cherished mentor and friend and to recognize the lasting contributions Dr. Harwood-Nash made to the study and practice of radiology.

Dr. Harwood-Nash founded pediatric neuroradiology and spent his life sharing his passion and expertise with radiologists around the world. In honor of his influence on the international radiologic community, the Derek Harwood-Nash Scholar Grant will focus on opportunities for international educators and investigators. "This will be the first Scholar Grant open to young academic radiologists outside North America," said Anne G. Osborn, M.D., chair of the RSNA R&E Foundation Board of Trustees. "Derek Harwood-Nash's passion for his African homeland and his numerous friends and colleagues all over the world made him a roving ambassador for RSNA."

Dr. Berger, one of Dr. Harwood-Nash's training fellows at the Hospital for Sick Children in Toronto, said he is indebted to



**Paul E. Berger, M.D.**

Dr. Harwood-Nash for guiding his way as a young radiologist. Now, Dr. Berger said he hopes that young radiologists throughout the world will have the opportunity to learn and make discoveries that will keep radiology at the forefront of medicine.

"Many radiologists talk about looking forward and giving back, but Dr. Berger has truly walked the walk," said Dr. Osborn. "Honoring those who have trained us, mentored us and helped us along the way—there couldn't be a better way to give something back."

The donation is the largest individual gift and first individual grant endowment in the Foundation's 24-year history. Dr. Berger, CEO and chairman of the board of NightHawk Radiology Services, said he is pleased to be able to pay tribute to Dr. Harwood-Nash and considers himself lucky to have prospered from radiology and knows that continued investment in the profession is critical for radiology's future.

With Dr. Berger's gift, the R&E Foundation's Silver Anniversary Campaign has reached \$10.5 million in contributions toward its goal of \$15 million to fund R&D for the future of radiology.

## **Derek C. Harwood-Nash, M.B., Ch.B., D.Sc. 1936–1996**

Derek C. Harwood-Nash, M.B., Ch.B., D.Sc., died suddenly in 1996 while serving on the RSNA Board as Liaison for Publications. Born in Rhodesia and educated



at the University of Cape Town and the University of Toronto, Dr. Harwood-Nash spent two decades earning a reputation of "goodwill ambassador" for radiology by encouraging worldwide cooperation among radiologists.

In addition to the newly announced R&E Scholar Grant, RSNA offers the Derek Harwood-Nash International Fellowship through its Committee on International Relations and Education. The fellowship allows for a faculty member from an international institution to study at a North American institution for 6 to 12 weeks. For more information, go to [RSNA.org/International/CIRE/dhnash.cfm](http://RSNA.org/International/CIRE/dhnash.cfm).

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# Radiology in Public Focus

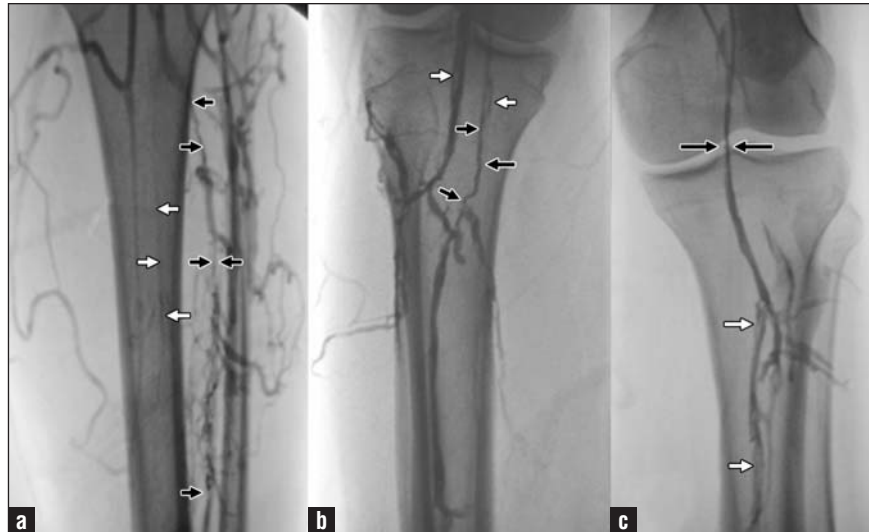
Press releases have been sent to the medical news media for the following articles appearing in the February issue of *Radiology* ([RSNA.org/radiology](http://RSNA.org/radiology)):

## Deep Vein Thrombosis of Lower Extremity: Direct Intraclot Injection of Alteplase Once Daily with Systemic Anticoagulation—Results of Pilot Study

**A**LTEPLASE injection can reduce the risk of pulmonary embolism in patients with deep-vein thrombosis (DVT), a clinical study has shown.

In a study of 13 men and seven women with first-onset acute DVT, Richard Chang, M.D., of the Department of Diagnostic Radiology at the Warren G. Magnuson Clinical Center of the National Institutes of Health, and colleagues evaluated daily intraclot injection or “lacing” with alteplase along with systemic anticoagulation as an alternative to continuous-infusion thrombolytic regimens.

After six months of anticoagulation therapy, antegrade blood flow was restored in 80 percent of the patients and 90 percent of patients experienced complete resolution of symptoms. Ventilation-perfusion scans showed a 40 percent incidence of pulmonary embolism before therapy and a 15 percent incidence of asymptomatic pulmonary embolism during therapy. “During a mean follow-up period of 3.4 years,



**Venograms (anteroposterior views) show chronic phlebotic changes in calf veins characterized by absence of valves, linear synechiae and focal strictures or occlusions.**

Normally, numerous valves are found in calf veins, but they are absent here. (a) Venogram obtained with left foot vein injection shows atretic posterior tibial vein (white arrows) and focal strictures in peroneal vein (black arrows). A long atretic segment of the lesser saphenous vein (unmarked) can also be visualized. Retrograde popliteal injection venograms of a right leg (b) and left leg (c) show absence of valves, linear synechiae (white arrows) and focal strictures (black arrows). Absence of valves allows retrograde-injected contrast material to reflux down almost to ankle.

(*Radiology* 2008;246:619–629) © RSNA, 2008. All rights reserved. Printed with permission.

no patient developed a postthrombotic syndrome or recurrent thromboembolism,” the researchers note. Recovery of plasminogen activator inhibitor-1 levels and rapid clearance of circulating alteplase were observed within 2 hours after completion of treatment.

“Intraclot injection or lacing of

the thrombus with a fibrin-binding thrombolytic agent such as alteplase is an alternative to continuous-infusion regimens and minimizes the duration of systemic exposure to thrombolytic agents,” the authors conclude.

## Diagnostic Accuracy of Digital versus Film Mammography: Exploratory Analysis of Selected Population Subgroups in DMIST

Digital mammography detects cancer better than film mammography in pre- and perimenopausal women aged 50 or younger with dense breasts, a multicenter study has revealed.

A retrospective analysis of the American College of Radiology Imaging Network’s Digital Mammographic

Imaging Screening Trial (DMIST) compared digital and film mammography in overlapping groups of women categorized by age, menopausal status and breast density. The study involved 33 centers and 42,760 women.

Etta D. Pisano, M.D., of the Departments of Radiology and Biomedical

Engineering at the UNC-Lineberger Comprehensive Cancer Center and the Biomedical Research Imaging Center of the University of North Carolina School of Medicine, and colleagues found that the area under the receiver operating characteristic curve for digital

*Continued on page 23*

# Journal Highlights

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

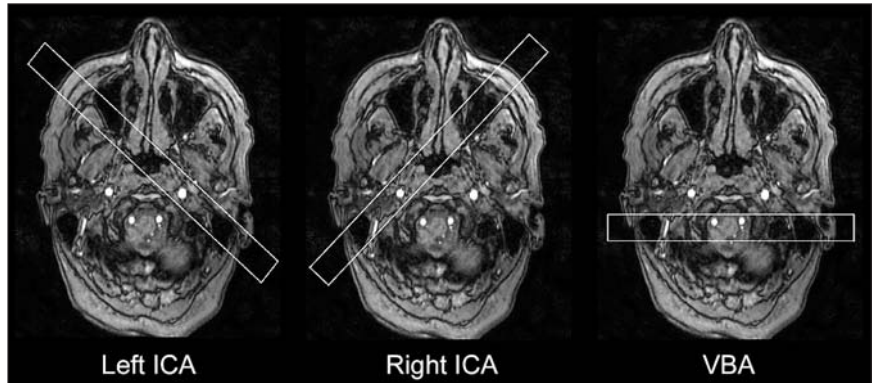
## Brain Perfusion Territory Imaging: Methods and Clinical Applications of Selective Arterial Spin-labeling MR Imaging

**I**N THE past decade, optimization of selective arterial spin-labeling (ASL) MR imaging techniques to image the cerebral perfusion territories has resulted in numerous labeling approaches and

**Radiology**

an increasing number of clinical applications. As a result, ASL MR imaging is emerging as a noninvasive alternative to reference standard intraarterial digital subtraction angiography (DSA).

In a review article in the February issue of *Radiology* ([RSNA.org/radiology](http://RSNA.org/radiology)), Peter Jan van Laar, M.D., Jeroen van der Grond, Ph.D., and Jeroen Hendrikse, M.D., Ph.D., from the University Medical Center Utrecht and Leiden University Medical Center in The Netherlands, describe ASL MR imaging methods and demonstrate how ASL MR imaging contributes to the study of cerebral hemodynamic changes in



Transverse source images of time-of-flight MR angiography of brain-feeding arteries show planning of the selective arterial spin-labeling slabs for perfusion territory imaging of left internal carotid artery (ICA), right ICA and vertebral basilar arteries (VBA).

(*Radiology* 2008;246:354–364) © RSNA, 2008. All rights reserved. Printed with permission.

patients with cerebrovascular disease such as acute stroke, large artery stenocclusive disease and arteriovenous malformation.

The researchers address continuous ASL and pulsed ASL techniques, clinical application in cerebrovascular intervention and the capacity of ASL MR for quantitative analysis of regional cerebral blood flow from each individual feeding artery.

“In the future, this technique may

be capable of replacing diagnostic intraarterial DSA in a selected group of patients,” the researchers conclude. “Furthermore, selective ASL MR is especially suited for noninvasive follow-up after vascular interventions. ... As a noninvasive tool for perfusion territory measurements, we believe selective ASL will contribute to a better understanding of the relation between vasculature, perfusion and brain function.”

## MR Imaging Features of Vaginal Malignancies

**I**N DIAGNOSING and staging primary vaginal malignancies, MR imaging can provide details not readily assessed at examination under anesthesia and is crucial in demonstrating tumor location, parametrial extension, pelvic sidewall involvement

**RadioGraphics**

and spread to the bladder or urethra, rectum and lymph nodes. MR imaging can also help depict pelvic anatomy for surgical and radiation therapy planning.

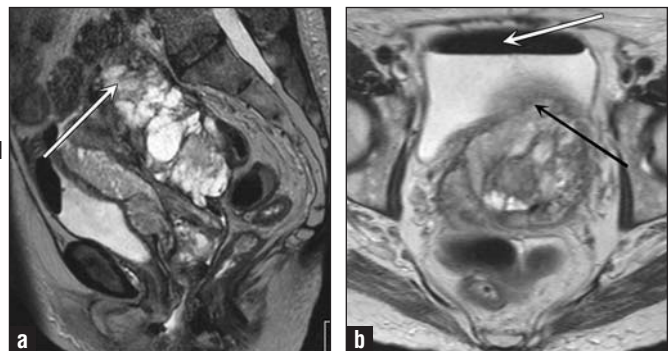
In an article in the January-Feb-

**Vaginal metastasis in a 60-year-old patient with a stage IIIC malignant ovarian mixed müllerian tumor who presented with vaginal bleeding, pneumaturia and fecal leakage.**

(a) Sagittal T2-weighted MR image shows a 10 x 10 x 8.5 cm mass

arising from the posterior vaginal vault and invading the sigmoid colon superiorly (arrow). The mass has heterogeneous high signal intensity and contains multiple loculi. (b) Axial T2-weighted MR image shows that the mass invades the bladder (black arrow), which contains gas (white arrow) as a result of a fistulous connection.

(*RadioGraphics* 2008;28:49–63) © RSNA, 2008. All rights reserved. Printed with permission.





ruary issue of *RadioGraphics* (RSNA.org/radiographics), Jyoti H. Parikh, F.R.C.R., of the Royal Marsden Hospital NHS Foundation Trust in London, and colleagues review primary vaginal malignancies and vaginal metastases and discuss their imaging features with respect to MR imaging.

Specifically, Dr. Parikh and colleagues address:

- MR imaging technique for vaginal

malignancies

- Patterns and extent of disease in primary squamous cell vaginal carcinoma
- MR imaging features of the histologic subtypes of primary nonsquamous vaginal carcinomas, including adenocarcinoma, melanoma, leiomyosarcoma and spindle cell synovial sarcoma
- Disease patterns and MR imaging

features of gynecologic and nongynecologic vaginal metastases

This article meets the criteria for 1.0 AMA PRA Category 1 Credit. CME is available online only.

“The superb soft-tissue contrast resolution of MR imaging depicts the nature of vaginal malignancies,” the authors conclude. “MR imaging allows detailed assessment of the anatomic extent of the disease and also its characteristic appearance, thus assisting in management of the tumor.”

## RadioGraphics Survey Inspires Changes

Results of a recent reader survey indicate that *RadioGraphics* is fulfilling its mission more successfully than ever and provide valuable feedback for upcoming issues.

Reader responses have already inspired an increased focus on quality initiatives, CME offerings, informatics and lifelong learning, consideration of options for print versus online reading and continued outreach to

the international community.

The latest survey follows much the same format as those conducted in 1991, 1997 and 2002. “We are very pleased with how the survey was conducted,” said *RadioGraphics* Editor William W. Olmsted, M.D. “We have kept more or less the same questions throughout so we can track data longitudinally, though certainly with a few

additions—for example, the online version has become more prominent.

“These surveys give us an opportunity to see where we are and give us a chance to make positive changes for the future of the journal,” Dr. Olmsted concluded.

An article detailing all the survey results will be published in the March 2008 issue of *RSNA News*.

# Radiology in Public Focus

## Diagnostic Accuracy of Digital versus Film Mammography: Exploratory Analysis of Selected Population Subgroups in DMIST

Continued from page 21

mammography was 79 percent, versus 54 percent for film mammography, in the combined groups of women with dense breasts, pre- and perimenopausal women and women aged 50 years or younger.

For women aged 65 years or older with fatty breasts, film performed slightly better than digital mammography, the researchers found.

Dr. Pisano and colleagues assert that, because the results of the original DMIST analysis were not anticipated, “the originally planned analysis did not attempt to dissect the effect of the three different factors combining the groups for which digital mammography performed better.”

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## Media Coverage of RSNA 2007

More than 2,000 stories about RSNA 2007 have been carried by print, broadcast and online media. Notable print placements include *The New York Times*, *USA Today*, *Los Angeles Times*, *Chicago Tribune*, *Newsday*, *New York Post*, *Boston Globe*, *Philadelphia Inquirer*, *Scientific American*, *The Times* (London) and *National Post* (Canada).

Thirteen news conferences were held during RSNA 2007. Broadcast coverage included stories televised nationally and internationally on CBS, NBC, ABC, FOX, CNN, CNN Headline News, Fox News Channel, CW Superstation, Univision and the Canadian networks CBC and CTV. Programs featuring news conference topics or taping onsite at RSNA 2007 included *CBS Evening News*, *NBC Nightly News*, *ABC World News Tonight*, *Fox and Friends*, *American Morning* (CNN) and *Up to the Minute* (CBS). In addition, radio coverage included multiple placements on Voice of America, ABC Radio Network, CBS Radio Network, National Public Radio and CNN Radio.

Prominent Web coverage included *The Wall Street Journal* and *The New York Times* online editions and WebMD.

## February Public Information Activities Focus on the Heart

To highlight Heart Health Awareness Month in February, RSNA will distribute public service announcements (PSAs) focusing on new imaging tools available to diagnose heart and vascular diseases in their early stages.

In addition to the PSAs, RSNA will distribute the “60-Second Checkup” radio program focusing on heart health-related imaging technologies such as cardiovascular MR and coronary CT angiography to detect coronary artery disease.

# Working For You

## RSNA Committees

RSNA News continues its series highlighting the work of RSNA's volunteer committees with a look at the Publications Council.

### Publications Council

**C**RITICAL to helping RSNA meet its goal of excellence in publications and communications to advance radiologic science and education is the RSNA Publications Council. Council members assure that RSNA publications remain innovative.

Meeting annually, the Publications Council comprises the editors of *Radiology*, *RadioGraphics*, *RSNA News* and the *Daily Bulletin*, as well as the chair of the Radiology Informatics Committee and at-large RSNA members.

In 2007, the Publications Council reviewed and recommended approval of a proposed Author Data Center for the online journals, suggested ways to increase resident input into journals and encouraged Society publications to communicate maintenance of certifica-

tion information, especially on practice quality improvement, to RSNA members. The Publications Council also reviews the financial status, circulation and usage,

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advertising, citation record and marketing of RSNA publications and serves as a sounding board for

each editor's ideas and plans.

Recently the council has taken up such topics as journal supplements, online distribution and international outreach.

The Publications Council is key to the successful communication of RSNA research and education activities, as well as the day-to-day and week-to-week activities of many RSNA programs, said Sarah S. Donaldson, M.D., RSNA Board Liaison for Publications



Sarah S. Donaldson,  
M.D.

and Communications. "The council gathers superb radiologists serving in critical positions for RSNA as editors of key publications, as well as the chair of a key committee and prominent journal authors and readers," she said. "When you get this kind of group together, valuable feedback and new ideas for the publi-

cations always come forth."

On the agenda for the Publications Council's meeting this month are plans for the online versions of the journals and proposals for journal translation.

Information about volunteering for RSNA committees is available at [RSNA.org/About/volunteer.cfm](http://RSNA.org/About/volunteer.cfm).

### RSNA to Attend ECR, AUR

Representatives from RSNA will staff an informational booth at the European Congress of Radiology in Vienna, Austria, March 7–11, and Association of University Radiologists annual meeting in Seattle, March 25–29.

Information will be available for potential members about what the Society has to offer, including RSNA 2008, RSNA Highlights and other education and research programs. Current members can find answers to questions about their benefits. RSNA members planning on attending ECR or AUR

are invited by to say hello and bring a colleague to learn more about RSNA membership.

RSNA personnel will also staff the informational booth at the Italian Society of Medical Radiology in Rome, May 23–27. In addition, RSNA will showcase its journals at the annual meetings of the American College of Cardiology, March 30–April 1, and Medical Library Association, May 16–21. Both meetings are in Chicago.

### 2008 RSNA Membership Directory

The printed 2008 RSNA Membership Directory is available by request only. If you would like a copy, go to [RSNA.org/requestdirectory](http://RSNA.org/requestdirectory) by March 7.

The online RSNA Membership Directory ([RSNA.org/directory](http://RSNA.org/directory)) is easy to use, searchable and always up to date. A user name and password are required.

If you have a colleague who would like to become an RSNA member, you can download an application at [RSNA.org/mbrapp](http://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](mailto:membership@rsna.org).

# Program and Grant Announcements

## RSNA Introduction to Research for International Young Academics

**Deadline for Nominations—April 15**

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](http://RSNA.org/IRIYA).

## RSNA Tools for Success in the Practice of Radiology

**June 6–7 • RSNA Headquarters, Oak Brook, Ill.**

**Registration Opens March 1, 2008—Limited Seating Available**

Successful leadership skills are vital to growth in the field of radiology. This seminar will focus on the major issues and obstacles faced by leaders in radiology and provide attendees with the "tools" they need to not only manage, but also excel, as leaders in their chosen areas of radiology. For those en route to or currently traveling the leadership path, this course is a must.



For more information, go to [RSNA.org/education](http://RSNA.org/education) or contact the RSNA Education Center at 1-800-381-6660 x7772 or [ed-ctr@rsna.org](mailto:ed-ctr@rsna.org).

## NCRP 44th Annual Meeting: Low Dose and Low Dose-Rate Radiation Effects and Models

**April 14–15 • Bethesda North Marriott Hotel & Conference Center, Md.**

The 2008 annual meeting of the National Council on Radiation Protection & Measurements (NCRP) will address the debate over the applicability of a linear-nonthreshold model for characterizing the biological responses and health effects of exposure to low radiation doses. The effect of delivery rate on biological and health outcomes will also be discussed.

To register, go to [registration.ncrponline.org](http://registration.ncrponline.org). RSNA is an NCRP collaborating organization.

## RSNA Clinical Trials Methodology Workshop

**January 10–16, 2009 • Hyatt Regency Scottsdale Resort and Spa at Gainey Ranch, Arizona • Application Web site opens Feb. 15**

**Applications due June 5**

Over the course of this 6½-day workshop, each trainee will be expected to develop a protocol for a clinical study, ready to include in an application for external funding. Participants will learn how to develop protocols for the clinical evaluation of imaging modalities. A dynamic and experienced faculty will cover topics including:

- Principles of clinical study design
- Statistical methods for imaging studies
- Design and conduct of multi-institutional studies
- Sponsorship and economics of imaging trials
- Regulatory processes



Applicants will undergo a competitive selection process for entrance into the course. Once admitted, trainees will participate in advance preparation, didactic sessions, one-on-one mentoring, small discussion sessions, self-study and individual protocol development. Familiarity with basic concepts and techniques of statistics and study design is required of all applicants.

For more information, contact Fiona Miller at 1-630-590-7741 or [fmiller@rsna.org](mailto:fmiller@rsna.org).

## RSNA-Co-sponsored Courses at the Association of University Radiologists (AUR) Annual Meeting

**March 25–29 • Sheraton Seattle Hotel**

**MERC Workshops** Part of the Association of American Medical Colleges (AAMC) Medical Education Research Certificate (MERC) Program, these workshops are targeted to clinicians and other educators who want to learn research skills enabling collaborative participation in medical education research projects. "Questionnaire Design and Construction" and "Program Evaluation" workshops will be offered during AUR on Tuesday, March 25.

**Radiology Informatics: What the Academic Radiologist Needs to Know** This session, also offered Tuesday, March 25, addresses informatics for radiology education, detailing how to optimize a teaching portfolio and improve radiology communication. A session on informatics for practice administration explores mining data to ensure quality and safety, while a session on informatics for imaging research looks at systems for imaging investigators.

More information about all sessions is available at [www.AUR.org](http://www.AUR.org).

# News about RSNA 2008

## Submit Abstracts for RSNA 2008

**T**HE ONLINE system to submit abstracts for RSNA 2008 is now open. The submission deadline is 12:00 p.m. Central Time on April 15, 2008. Abstracts are required for scientific papers, scientific posters, education exhibits and a new category, applied science exhibits. Applied science exhibits include submissions that demonstrate non-hypothesis-based work not yet generally accepted enough in practice to be considered an education exhibit.



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**To submit an abstract online, go to [RSNA.org/abstracts](http://RSNA.org/abstracts).** 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.



### RSNA 2007 Sets Attendance Records

At 27,593, professional attendance was the highest in the history of the annual meeting. Total attendance of 62,501, RSNA member attendance of 10,247 and international attendance of 8,792 were also all-time highs.



## RADIATION SAFETY

# Answer

[Question on page 3.]

**A** Never remain at the patient's bedside when the X-rays are on. Six feet (2 meters) is okay for occasional shots. Ten to 12 feet (3–4 meters) is better if you are frequently in the area.

Q&A courtesy of AAPM.

### Important Dates for RSNA 2008

- April 15** Deadline for abstract submission
- April 21** RSNA/AAPM member registration and housing open—advance registration and housing brochure available online only at [RSNA2008.RSNA.org](http://RSNA2008.RSNA.org).
- May 19** Non-member registration and housing open.
- June 30** Refresher course enrollment opens—course enrollment brochure will be available online and in print.
- Nov. 7** Final advance registration, housing and course enrollment deadline.
- Nov. 30–Dec. 5** RSNA 94th Scientific Assembly and Annual Meeting.



# Product News

## FDA CLEARANCE

### Mobile Gamma Camera

MEDX ([www.medx-inc.com](http://www.medx-inc.com)) has received FDA clearance for its newest nuclear imaging system, the T-Quest™ mobile gamma camera. T-Quest is a completely portable and thyroid-specific gamma camera.

Though designed specifically for optimized thyroid imaging and uptake calculations, the compact T-Quest also has the flexibility to perform any small organ imaging, with minimized focal distance and mm/pixel ratio, according to the company.

T-Quest works in conjunction with the NuQuest® acquisition and processing computer, which provides state-of-the-art energy, linearity and uniformity correction. Associated software features customizable thyroid and parathyroid protocols along with general nuclear image processing tools.

T-Quest requires less than 8 square feet of floor space and features a 6" field of view and lightweight collimators easily changed by hand.



## NEW PRODUCT

### Color and Grayscale Displays

Eizo GmbH Display Technologies ([www.eizo.com](http://www.eizo.com)), formerly Siemens Automation and Drives, introduces new 1 mega pixel color and grayscale displays. The 19" SCD 19102 (shown) and SMD 19102 feature the latest viewing angle technology and high luminance of up to 280 candelas per square meter (cd/m2) for color and 1000 cd/m2 for grayscale. Both displays are available with optional non-reflective protective glass screen and multifunctional stand.



A range of signal inputs, as well as EIZO's "force mode" function, permits tailoring the displays to specialized application requirements. Five integrated look-up tables with practice-oriented settings of high image quality are stored in the display, enabling the use of standard graphics boards. The displays can be set and re-calibrated in the field in accordance with the CIE or DICOM standards.

In-plane switching technology guarantees a viewing angle of 170 degrees for every grayscale and fast image change between grayscales. Continuous color calibration and monitoring of the backlighting via an internal stability system offers a constantly homogeneous image when viewing displays arranged side-by-side.

## NEW PRODUCT

### Patient-based Mammography Information System

MammoBase ([www.mammobase.com](http://www.mammobase.com)) has introduced MammoProfile, a kiosk-based product allowing mammography patients to enter their own history data into the MammoBase radiology information systems or other hospital information systems. After entering data via an easy-to-use touchscreen, patients can then view information about mammography and women's healthcare. MammoProfile complements the MB1000 and MB3000 mammography information systems manufactured by MammoBase and is designed to save technologist time and enhance radiologist reporting while involving the patient in her own healthcare.

## FDA CLEARANCE

### Breast Imaging Workstation

Three Palm Software ([www.threepalmsoft.com](http://www.threepalmsoft.com)) has received FDA clearance for its WorkstationOne™ breast imaging workstation.

Intended for softcopy reading and interpretation of digital mammography images, WorkstationOne incorporates methodology such as a systematic viewing technique for searching for subtle abnormalities. WorkstationOne supports Integrating the Healthcare Enterprise (IHE®) integration profiles and the display of CAD markers. The workstation can be installed on a general purpose computer with one or two gray scale high resolution monitors and one color monitor.



# RSNA.org

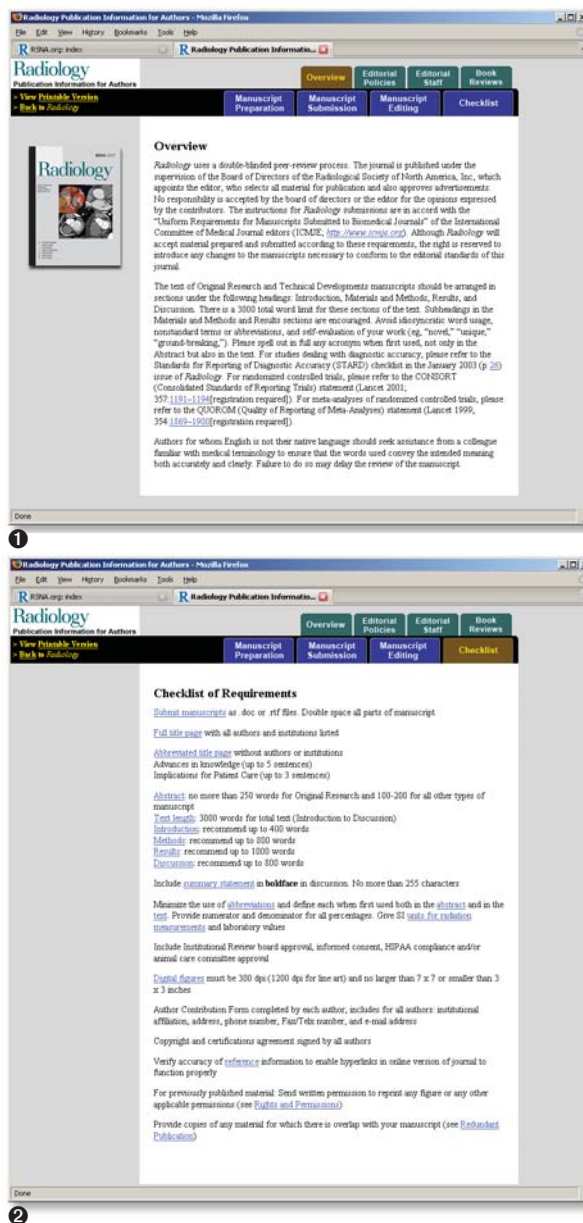
## Online Information for Radiology Authors Expanded

**A** NEW Web page for potential *Radiology* authors is a detailed, interactive guide to preparing manuscripts for submission to the journal. Access the page by going to [RSNA.org/radiology](http://RSNA.org/radiology) and clicking Info for Authors in the lefthand column.

1 Tabs at the top of the page organize content. Included are detailed descriptions of the manuscript preparation, submission and editing processes and definitions of key manuscript elements, as well as a link to Manuscript Central, the online submission program for *Radiology*.

2 The Checklist offers a quick way for authors to ensure their submissions are complete and in accordance with requirements.

“We hope that the new Web format will make it easier for authors to quickly and reliably find the information they are looking for,” said *Radiology* Editor Herbert Y. Kressel, M.D.



### OTHER WEB NEWS

## Keep on Top of FDA Activity with New E-Mail Service

Now available from the U.S. Food and Drug Administration (FDA) is an e-mail service that alerts subscribers whenever information is updated on certain FDA Web pages, including medical product approvals and consumer health information.

To receive e-mail alerts, click the red envelope icon located on participating Web pages. Each e-mail update includes a direct link to the FDA Web page that has been updated. A list of currently available topics can be found at [www.fda.gov/emaillist.html](http://www.fda.gov/emaillist.html).

## connections

Your online links to RSNA

### RSNA.org

**My RSNA™**  
[RSNA.org](http://RSNA.org) – click My RSNA

**Radiology Online**  
[RSNA.org/radiology](http://RSNA.org/radiology)

**RadioGraphics Online**  
[RSNA.org/radiographics](http://RSNA.org/radiographics)

**RSNA News**  
[rsnanews.org](http://rsnanews.org)

**Membership Applications**  
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**RSNA CME Credit Repository**  
[RSNA.org/cme](http://RSNA.org/cme)

**CME Gateway**  
[CMEgateway.org](http://CMEgateway.org)

**InterOrganizational Research Council**  
[radresearch.org](http://radresearch.org)

**RSNA Medical Imaging Resource Center**  
[RSNA.org/mirc](http://RSNA.org/mirc)

**RSNA Career Connection**  
[RSNA.org/career](http://RSNA.org/career)

**RadiologyInfo™**  
 RSNA-ACR patient information Web site [radiologyinfo.org](http://radiologyinfo.org)

**RSNA Press Releases**  
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**RSNA Research & Education (R&E) Foundation**  
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**Community of Science**  
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**CQI Initiative**  
[RSNA.org/quality](http://RSNA.org/quality)

**RSNA Highlights™ 2008: Clinical Issues**  
[RSNA.org/Highlights](http://RSNA.org/Highlights)

**RSNA 2008**  
[RSNA2008.RSNA.org](http://RSNA2008.RSNA.org)

**Abstract Submission for RSNA 2008**  
[RSNA.org/abstracts](http://RSNA.org/abstracts)

# Medical Meetings

## March – June 2008

**MARCH 2-5**

Society of Thoracic Radiology (STR), Annual Meeting, Sanibel Harbour Resort & Spa, Fort Myers, Fla. • [www.thoracicrad.org](http://www.thoracicrad.org)

**MARCH 7-11 VISIT THE RSNA BOOTH**

European Congress of Radiology (ECR), Annual Meeting, Austria Center, Vienna • [www.ecr.org](http://www.ecr.org)

**MARCH 12-15**

American Institute of Ultrasound in Medicine (AIUM), Annual Convention, San Diego Marriott Hotel and Marina • [www.aium.org](http://www.aium.org)

**MARCH 12-15**

The International Society for Clinical Densitometry (ISCD), 14th Annual Meeting: Global Assessment of Skeletal Health, Hyatt Regency San Francisco-Embarcadero Center • [www.iscd.org](http://www.iscd.org)

**MARCH 15-20**

Society of Interventional Radiology (SIR), 33rd Annual Scientific Meeting, Washington, D.C., Convention Center • [www.sirmeeting.org](http://www.sirmeeting.org)

**MARCH 25-29 VISIT THE RSNA BOOTH**

Association of University Radiologists (AUR)/Society of Chairmen of Academic Radiology Departments (SCARD)/Association of Program Directors in Radiology (APDR), In Collaboration with RSNA, 56th Annual Meeting, Sheraton Seattle Hotel • [www.aur.org](http://www.aur.org)

**MARCH 30-APRIL 4**

Society of Computed Body Tomography and Magnetic Resonance (SCBT-MR), 31st Annual Course, Charleston Place Hotel, South Carolina • [www.scbtmr.org](http://www.scbtmr.org)

**APRIL 4-6**

Japan Radiological Society (JRS), 67th Annual Meeting, Pacifico Yokohama, Japan • [www.secretariat.ne.jp/jrs67/english/invitation\\_eng.html](http://www.secretariat.ne.jp/jrs67/english/invitation_eng.html)

**APRIL 13-18**

American Roentgen Ray Society (ARRS), 108th Annual Meeting, Marriott Wardman Park Hotel, Washington • [www.rrs.org](http://www.rrs.org)

**APRIL 14-15**

National Council on Radiation Protection and Measurements (NCRP), 44th Annual Meeting: Low Dose and Low Dose-Rate

Radiation Effects and Models, Bethesda North Marriott Hotel & Conference Center, Maryland • [www.ncrponline.org](http://www.ncrponline.org)

**MAY 3-9**

International Society for Magnetic Resonance in Medicine (ISMRM), 16th Scientific Meeting and Exhibition, Toronto • [www.ismrm.org](http://www.ismrm.org)

**MAY 4-6**

2008 World Congress of Brachytherapy, Marriott Copley Place, Boston • [www.americanbrachytherapy.org](http://www.americanbrachytherapy.org)

**MAY 4-7**

Radiology Business Management Association (RBMA), 2008 Radiology Summit, Las Vegas Hilton • [www.rbma.org](http://www.rbma.org)

**MAY 6-10**

Society for Pediatric Radiology (SPR), Annual Meeting, Fairmont Scottsdale Princess, Arizona • [www.pedrad.org](http://www.pedrad.org)

**MAY 15-18**

Society for Imaging Informatics in Medicine (SIIM), Annual Meeting, Washington State Convention & Trade Center, Seattle • [www.siim2008.org](http://www.siim2008.org)

**MAY 17-22**

American College of Radiology (ACR), Annual Meeting and Chapter Leadership Conference 2008, Hilton Washington • [www.acr.org](http://www.acr.org)

**MAY 23-27 VISIT THE RSNA BOOTH**

Italian Society of Medical Radiology, 43rd Annual Congress, New Rome Fair Centre • [www.congresso.sirm.org](http://www.congresso.sirm.org)

**JUNE 5-8**

International Society of Radiology (ISR), 25th International Congress of Radiology, Palais des Congrès, Marrakesh, Morocco • [www.icr2008.org](http://www.icr2008.org)

**NOVEMBER 30-DECEMBER 5**

RSNA 2008, 94th Scientific Assembly and Annual Meeting, McCormick Place, Chicago • [RSNA2008.RSNA.org](http://RSNA2008.RSNA.org)

**MARCH 2-4, 2009**

RSNA Highlights™ 2009: Clinical Issues, Renaissance Esmeralda Resort and Spa, Palm Springs, Calif. • [RSNA.org/Highlights](http://RSNA.org/Highlights)

**RSNA**News

RSNA News  
820 Jorie Blvd.  
Oak Brook, IL 60523  
1-630-571-2670  
1-630-571-7837 Fax  
[rsnanews@rsna.org](mailto:rsnanews@rsna.org)

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