

# RSNA *News*

The screenshot shows the FDA website with a public health advisory titled "Update on Magnetic Resonance Imaging (MRI) Contrast Agents Containing Gadolinium and Nephrogenic Fibrosing Dermopathy". It also features news articles such as "US FDA warns kidney patients about new disease" and "6/9/2006 - MRI Contrast Agent Under Investigation". A large image of a patient's skin with a rash is visible in the center of the screenshot.

Arm image used by permission of Shawn Cowper, M.D., Yale University.

## Search Intensifies for Link between New Disease and Gadolinium-based Agents

### Also Inside:

- Increased CAD Use Prompts Look at Advantages, Drawbacks
- Successful Abstract Submission Involves Some Art, More Science
- Prostate Cancer Prognosis Changes in Face of New Treatments
- Board of Directors Report

Online Abstract Submission Open for  
RSNA 2007 — [RSNA.org/abstracts](http://RSNA.org/abstracts)

# RSNA *News*

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**RSNA News**

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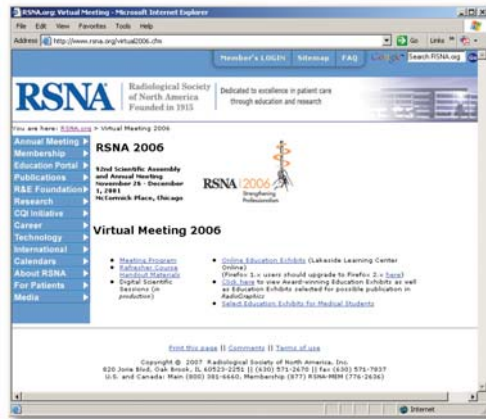
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## RSNA 2006 Virtual Meeting Now Available

ACCESS THE RSNA 2006 Virtual Meeting at [RSNA.org/virtual2006.cfm](http://www.rsna.org/virtual2006.cfm) and find:

- Searchable Meeting Program
- Handout materials from select refresher courses
- Digital scientific sessions

Online education exhibits can also be viewed at the RSNA 2006 Virtual Meeting site. Exhibit access is limited to those who attended RSNA 2006 or are members of RSNA. An RSNA member username and password or RSNA 2006 badge number and password can be used to access the system.



## AAWR Anthology Details Experience of Women Radiologists

RSNA Board members Hedvig Hricak, M.D., Ph.D., and Sarah S. Donaldson, M.D., and 2003 President Peggy J. Fritzsche, M.D., are among those contributing to an online anthology composed by the American Association for Women Radiologists (AAWR).



**Katarzyna J. Macura, M.D., Ph.D.**

*Reflections from Women Radiologists: Portraits from AAWR* is available at [www.aawr.org/portraits/index.asp](http://www.aawr.org/portraits/index.asp).

Created as part of AAWR's 25th Anniversary, the anthology features more than 20 women radiologists sharing their personal experiences. The goal of the anthology is to empower young women radiologists by answering questions about a career in radiology and the balancing of family and professional life, said

2005 AAWR President Katarzyna J. Macura, M.D., Ph.D., who helped compile the anthology.

## Radiology Article Named Classic Physics Paper

A 1982 *Radiology* article about a rotation therapy technique has been named by the European Society for Therapeutic Radiology and Oncology (ESTRO) as a classic physics paper that changed radiation therapy.

In "Rotation Therapy Using a Novel High-Gradient Filter," (*Radiology* 1982;145:473-478) authors Ingmar Lax, M.Sc., and Anders Brahme, Ph.D., describe how the filter they placed in the photon beam produced a sharp dose gradient

between the target volume and the organ at risk, the medulla spinalis.

The *Radiology* article and another by Drs. Lax, Brahme and Justus E. Roos, M.D.—"Solution of an Integral Equation Encountered in Radiation Therapy," (*Phys. Med. Biol.* 1982;27:1221-1229)—represent the genesis of intensity-modulated radiation therapy, ESTRO notes in the most recent issue of its member newsletter.

# Radiology

## ACGME Board to Hear Recommended Changes to Radiology Residencies

Lengthening to 12 months the time a radiology resident must be in training before assuming in-house on-call responsibilities is one change the Accreditation Council for Graduate Medical Education (ACGME) will consider making to its radiology residency requirements.

Residents are currently required to have six months of training before being allowed solo call. After reviewing comments received during a 45-day review period that ended in mid-December, the ACGME's Radiology Residency Committee (RRC) recognized that implementing the change would be difficult for some programs and extended the recommended effective date to July 1, 2008.

The RRC proposed changes during its mandated 5-year review of program requirements for diagnostic radiology residencies in 2005. Proposals were discussed at the annual meetings of RSNA and the Association of University Radiologists in 2005 and 2006 before being posted on the ACGME Web site for comment.

Proposed changes, comments received and RRC responses to those comments will be reviewed by the ACGME Committee on Requirements, which will recommend a disposition to the ACGME Board of Directors.

### RADIATION SAFETY

## Question of the Month

**Q** A technologist asks, "Why is the patient dose rate per frame much higher for DSA than for fluoroscopy?"  
[Answer on page 18.]

## RSNA 2006 Offers Global Collaboration Opportunity



The executive directors of more than 30 radiology-related associations met during RSNA 2006 to discuss how their organizations are managing issues currently affecting the specialty. (Front row, left to right) Jerry Reid, Ph.D., American Registry of Radiologic Technologists; Lynn May, C.A.E., American Society of Radiologic Technologists; Henrik Silber, European Society of Cardiac Radiology; Monika Hierath, European Society for Magnetic Resonance in

Medicine and Biology; Michael Mabry, Radiology Business Management Association.

(Back row, left to right) Alexander Yule, M.Sc., International Society of Radiographers & Radiological Technologists; Dave Fellers, C.A.E., RSNA; Otha W. Linton, M.S.J., International Society of Radiology; Jorge Bisteni, M.D., Sociedad Mexicana de Radiología e Imagen and InterAmerican College of Radiology; Peter Baiertl, European Con-

gress of Radiology; Harald Ostensen, M.D., World Health Organization; David Schauer, Sc.D., C.H.P., National Council on Radiation Protection and Measurements; Barbara Dunlavey, Biomedical Engineering Society; Daniel Waigl, Cardiovascular & Interventional Radiological Society of Europe; Angela R. Keyser, American Association of Physicists in Medicine; Normand Laberge, Canadian Association of Radiologists.

The World Leadership Council, comprising leaders from major radiology societies around the world, met during RSNA 2006 to discuss international educational outreach programs.

(Front row, left to right) Otha W. Linton, M.S.J., International Society of Radiology (ISR); Nicholas C. Gourtsoyiannis, M.D., European Society of Radiology; Theresa C. McLoud, M.D., RSNA; Claude H. Manelfe, M.D., ISR president and chair of World Leadership Council.

(Back row, left to right) Dave Fellers, C.A.E., RSNA; Francisco A. Arredondo, M.D., ISR immediate past-president; Harald Ostensen, M.D., World Health Organization; James P. Borgstede, M.D., American College of Radiology; Miguel Stoopan, M.D., president of InterAmerican College of Radiology (CIR); Jan Labuscagne, M.D., Radiology Society of South Africa.



### MEDICAL IMAGING COMPANY NEWS

#### Kodak Sells Health Group

■ Eastman Kodak Company of Rochester, N.Y., has announced plans to sell its health group to Onex Healthcare Holdings, Inc., a subsidiary of Onex Corporation of Toronto. It is anticipated the sale will close in the first half of 2007.

Kodak said the sale, estimated at \$2.55

billion, will allow the company to sharpen its focus on consumer and professional imaging and the graphic communications industry. About 8,100 employees associated with the health group will continue with the business following the closing, Kodak reported. Included in the sale are manufac-

turing operations focused on products such as medical and dental imaging, digital x-ray capture and medical printers.

Onex's current healthcare operations include emergency care facilities and diagnostic imaging clinics.

## NIH Commits Nearly \$4 Million to Neuroimaging Clearinghouse

The National of Institutes of Health (NIH) Blueprint for Neuroscience Research consortium has awarded a 5-year, \$3.8 million contract to build the Neuroimaging Informatics Tools and Resources Clearinghouse.

Many neuroimaging tools and data-

bases are underutilized because they are not user-friendly, easily adoptable or well documented, said NIH Director Elias A. Zerhouni, M.D. Under the contract, Turner Consulting Group of Washington will establish a Web-based clearinghouse that encourages dissemi-

nation and discussion. Initially focusing on functional MR imaging, the clearinghouse will also allow for public comment regarding particular tools and resources, in order to guide development and enhance their use by the neuroimaging community.

## PEOPLE IN THE NEWS



### CIR Names New Officers

The InterAmerican Congress of Radiology (CIR) has named its officers for 2007. (From left) Luis Donoso, M.D., of Spain, treasurer; Ricardo Garcia-Monaco, M.D., of Argentina, president; Rodrigo Restrepo, M.D., of Colombia, president-elect; and Alejandro Beresniak, M.D., of Argentina, secretary general.

### Mintorovitch New CSO at CAD Sciences

Jan Mintorovitch, Ph.D., has been named chief scientific officer at CAD Sciences of White Plains, N.Y. Dr. Mintorovitch previously held several medical affairs and strategic marketing-related positions at Berlex Laboratories and at its parent company, Schering AG. Dr. Mintorovitch also spent a decade in academic research, focusing on contrast-enhanced MR imaging for a variety of applications. CAD Sciences specializes in computer-assisted diagnosis (CAD) software for contrast-enhanced MR imaging and CT.

### IN MEMORIAM

#### Josef Lissner, M.D.

Josef Lissner, M.D., Dr.h.c., honored last year with an RSNA Special Presidential Award for achievements including the founding of the European Congress of Radiology (ECR) and establishing its journal, died Dec. 30, 2006, at the age of 83.

Receiving his medical degree in 1951 from the University of Erlangen, Dr. Lissner trained in radiodiagnosis and radiotherapy. In 1969, he became a professor of radiology and chair of the Department and Clinic of Radiology at the Ludwig Maximilian University of Munich,

from which he retired in 1993.

In 1985, Dr. Lissner began overseeing a team of eminent European radiologists in founding the ECR. The congress recognized Dr. Lissner's contributions and made him honorary president for life and awarded him its gold medal. He also founded the journal *European Radiology* and, after serving as its first editor, was named lifetime honorary editor.

Accepting the Special Presidential Award on Dr. Lissner's behalf at RSNA 2006 was Maximilian F. Reiser, M.D.



Josef Lissner, M.D.,  
Dr.h.c.

RSNA News

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.

## Giving Credit Where it is Due

**A**s RSNA Scientific Program Committee chair, one of my responsibilities is to keep track of how much continuing medical education credit is offered through the RSNA annual meeting. Writing this column, however, I find myself tallying a different kind of credit—the recognition due to the large number of academicians who, along with private practice physicians and other healthcare professionals, make our annual meeting educationally diverse, well organized and affordable.

Our academicians were responsible for the majority of the 2,100-plus scientific abstract presentations at RSNA 2006, as well as many of the 1,383 education exhibits, 265 refresher courses and 29 special focus sessions. The sheer enormity of educational possibilities available at the annual meeting is evident in the printed program

itself—a hefty 5-pounds and 1,050 pages, primarily in phone book-size font.

Beyond their classroom and lecture hall presence, academicians further ensure the meeting's educational integrity by serving on the Scientific Program, Refresher Course and Education Exhibits committees. Almost 400 volunteers review more than 8,000 abstract submissions, organize scientific sessions and design refresher courses and special focus sessions.

It truly is mind-boggling to consider the time invested by every academician who performs research, creates a new exhibit or prepares to give an annual oration. Multiply each of the more than 8,000 submitted abstracts by a modest 40 hours of developmental



**Gerald D. Dodd III, M.D.**

effort—that's 8,000 weeks, or 167 years.

Academicians also help hold down the cost of the meeting. Presenters cover their travel and room-and-board costs and receive no reimbursement from RSNA. Indeed, that these contributions are made on a purely volunteer basis is what makes them so amazing. All

of radiology owes a tremendous debt of gratitude to our academicians, without whom the RSNA annual meeting—nay, the specialty—wouldn't be what it is.

*Gerald D. Dodd III, M.D., is a professor and chair of the Department of Radiology at the University of Texas Health Science Center at San Antonio. First appointed chair of the RSNA Scientific Program Committee for RSNA 2005, he will serve in the role through RSNA 2007.*

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

## LETTERS TO THE EDITOR

### Readers Respond to Jost Column

*A My Turn column by 2007 RSNA President R. Gilbert Jost, M.D. ("Changing the Curriculum," RSNA News, December 2006), energized the debate over how to maximize time spent in radiology education.*

TO THE EDITOR:

Dr. Jost's brief message gave me hope that the leaders in radiology are showing the insight needed to improve this wonderful field.

I was in the class first required to do an internship. Ten years later, I still look back on it as a waste of my time. Now, as a fellowship-trained breast imager, I wish I could have spent that year more wisely. I'm also wondering if I would have even needed to do a fellowship if I could have spent more months in breast imaging, instead of five months on interventional (and I'm sure most interventionalists feel the

same way about their mammography rotations).

I have seen too many disheartening articles about how we need to cut training to get more radiologists. I agree with Dr. Jost's plan to instead optimize training. I hope others will look at his ideas and realize that the time for the "super-radiologist"—who is an expert at every aspect of radiology—has passed, and that the time to create super radiologists is upon us.

**JODIE VAN WYHE, M.D.**

FOUR SEASONS BREAST CENTER  
SAN ANTONIO

TO THE EDITOR:

Dr. Jost accurately reflects the thoughts of many of our colleagues in academic medicine, but his comments are not compatible with those of many in private practice. We must remember that approximately 80 percent of our trainees flourish in non-university settings and we must prepare them for this mode of practice. Major changes in the curriculum are not required if the present criteria are used appropriately.

In academia, it has been suggested that the top 10 university programs receiving more than half of the

*Continued on page 6*

# RSNA Board of Directors Report

**T**HE 2007 RSNA Board of Directors held its first official session in Chicago on Friday, December 1, 2006. The newest Board member, N. Reed Dunnick, M.D., was welcomed as the liaison-designate for publications and communications.

During the December meeting, the Board discussed the successes of RSNA 2006, planned for RSNA 2007 and reviewed information about the 2008 RSNA Highlights conference. During the January Board retreat, the major focus of discussion was RSNA's role in radiology research. Outcomes and details of the retreat and the March Board of Directors meeting will be reported in the May issue of *RSNA News*.

## RSNA Highlights

The Society's first Highlights conference, RSNA Highlights: Clinical Issues for 2007, will be held later this month in Phoenix. The Society is pleased to offer a new annual conference. The 2007 meeting will focus on cardiac imaging, PET/CT, breast imaging and sports injuries.

In 2008, RSNA Highlights will be held February 18–20 in Orlando, Fla. Course emphasis will likely include thoracic imaging, neuroradiology, cardiac imaging and breast imaging.

## RSNA 2006

Attendance at RSNA 2006, including an all-time high 27,065 professional attendees, remained in line with the record attendance seen at RSNA 2005. The final audited figures are on page 26.

The technical exhibition set three records—the number of exhibiting com-

panies (758), the size of the exhibition (519,900 square feet) and the number of first-time exhibitors (162). A record was also set for the number of abstracts submitted (10,227) for consideration.

## RSNA 2007

The new Lakeside Learning Center was so well received, only minimal changes are planned for 2007. One new feature will be the inclusion of the popular Cases of the Day exhibits and Image Interpretation Session cases in the computer exhibits.

Several new courses and course topics have been approved for the 2007 annual meeting. A new series course will be on quality. RSNA is also developing a "starter kit" that will assist radiology practices and medical imaging facilities in launching their quality assurance programs.

Four days of series courses directed at radiation oncologists and oncologic images will be offered. They will include case-based material in addition to refresher courses and cutting-edge

science presentations. Topics for 2007 are head and neck imaging, gynecologic imaging, genitourinary imaging and breast imaging. Each day will end with an applied contouring session co-developed and co-taught by radiation oncologists and diagnostic radiologists.

Other new courses include:

- Categorical Course in Diagnostic Radiology: PET and PET/CT  
Director: Richard L. Wahl, M.D.
- Categorical Course in Diagnostic Radiology Physics: Imaging for Effective Radiation Therapy Treatment Planning



**Gary J. Becker, M.D.**  
Chair, 2007 RSNA Board of Directors

Organizer: John D. Hazle, Ph.D.

- AAPM/RSNA Physics Tutorial for Residents: Digital Radiography and Digital Fluoroscopy
- AAPM/RSNA Tutorial on Equipment Selection: MR
- Oncodiagnosis Panel  
Moderator: Brian O'Sullivan, M.D.

The moderator for the 2007 Image Interpretation Session will be C. Daniel Johnson, M.D., from Rochester, Minn.

## Two New Organizations

The new InterOrganizational Research Council met at RSNA 2006. RSNA is among the 15 participating societies helping coordinate activities that foster radiologic research. One of the council's first projects is further development of its Web site, [www.radresearch.org](http://www.radresearch.org). The site lists the funding opportunities of each participating society, research courses and associated foundations. The council is also examining ways to simplify the funding application process.

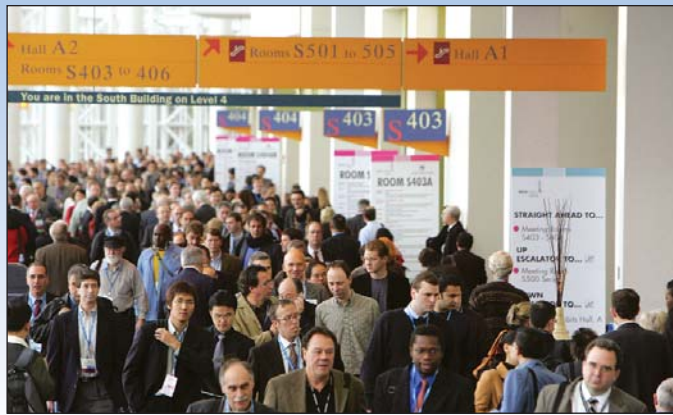
The new RSNA International

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**RSNA 2007**  
CONNECTING RADIOLOGY  
93rd Scientific Assembly  
and Annual Meeting  
November 25–30, 2007  
Chicago

**Officially tallied at 61,976, attendance at RSNA 2006 was in line with RSNA 2005 figures. Professional attendance reached an all-time high of 27,065.**



*Continued from previous page*

Advisory Committee also met at RSNA 2006. About a dozen radiologists from countries in Africa, Asia, Australia, Europe and South America, as well as North America, discussed developing RSNA activities and programs to encourage greater international participation in the Society. These discussions, as well as the new RSNA International Needs Assessment Survey, will help the Society develop long-term goals and strategies.

*RSNA is developing a "starter kit" that will assist radiology practices and medical imaging facilities in launching their quality assurance programs.*

### International Visiting Professors

The team that will participate in the 2007 Mexico International Visiting

Professor Program includes E. Scott Pretorius, M.D., and Jeffrey Jarvik, M.D. Visiting professors will also be sent to Algeria, Honduras and Uganda.

### Academic Societies

The Board approved, in concept, a combined effort to address the critical issues facing academic radiology through near-term and future collaboration with the Association of University Radiologists, Society of Chair-

men of Academic Radiology Departments and Association of Program Directors in Radiology. Details will be reported in *RSNA News* as they become available.

### Other Board Action:

- Approval of 15 Travel Awards for Young Investigators in Molecular Imaging for RSNA 2007.
- Authorization of a \$10,000 contribution in support of the International Congress of Radiology (ICR) 2008.
- Two physicians—one diagnostic radiologist and one radiation oncologist—will be chosen as RSNA representatives to the ASTRO Intersociety Summit on Radiation Oncology to be held in March in Santa Monica, Calif.

**GARY J. BECKER, M.D.**

CHAIR, 2007 RSNA BOARD OF DIRECTORS

■ Note: In our continuing efforts to keep RSNA members informed, the chair 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 2007.

## Readers Respond to Jost Column

*Continued from page 4*

National Institutes of Health grants restrict their choice of incoming residents to candidates who commit to superspecialization and research careers. The present requirements of the Accreditation Council for Graduate Medical Education Radiology Residency Committee and American Board of Radiology permit the customization of training for each individual within these programs.

Since about 80 percent of residents pursue fellowship training before entering private practice, the present requirements also meet their needs. These

radiologists (as well as academics) must be good physicians, as well as fine imagers, and the internship is a very important training ground for them. Superspecialization is very important but many, if not most, practices require that their staff cover areas outside of their specialty.

The present requirements permit the training of radiologists for academic practice, including research and superspecialization, as well as meeting the needs for the majority of radiologists in private practice.

**MURRAY L. JANOWER, M.D.**  
BOCA RATON, FLA.

### RESPONSE:

My Turn is a column where individuals are asked to speak on a topic that they personally feel strongly about. Dr. Janower and I definitely disagree about some (but not all) of the points in his letter, but I certainly respect his point of view. In view of the comments that I have received so far, it is clear that this is a topic that evokes strong and often widely disparate points of view—hence I think that it must have been a good topic for this type of a column.

**R. GILBERT JOST, M.D.**  
2007 RSNA PRESIDENT

**RSNA News**

RSNA News welcomes Letters to the Editor. Let us know what's on your mind. Send your letter by mail to *RSNA News*, 820 Jorie Blvd., Oak Brook, IL 60523, by fax to 1-630-571-7837, or by e-mail to [rsnanews@rsna.org](mailto:rsnanews@rsna.org). Please include your full name and telephone number. Letters may be edited for purposes of clarity and space.



# Search Intensifies for Link between New Disease and Gadolinium-based Agents

**A**S RESEARCHERS try to determine why a rare disease occurs in patients with moderate- to end-stage kidney disease who receive gadolinium-based contrast agents, the U.S. Food and Drug Administration (FDA) has issued new guidance intended to prevent further cases.

Having learned of more than 90 cases of nephrogenic systemic fibrosis (NSF) in patients who received gadolinium-based agents for MR imaging, the FDA in late December issued an advisory asking physicians to select alternative imaging methods for patients with moderate- to end-stage kidney disease whenever possible.

Where alternatives are not feasible, the FDA recommended prompt dialysis, citing a study published in 2001 in *Acta Radiologica* that indicated for the first to third hemodialysis sessions, average gadolinium-based contrast clearance rates are 78, 96 and 99 percent, respectively.

NSF is a progressive and debilitating thickening or fibrosis of the skin, which can affect the entire body including muscles and vital organs. Initially detected in 1997, the conditions were first described in 2000 by Shawn E.



Those who practice MR imaging must stay informed about the link between gadolinium-based agents and nephrogenic systemic fibrosis (NSF), said Emmanuel Kanal, M.D., in a hot topic presentation at RSNA 2006.

Cowper, M.D., a dermatopathologist at Yale University.

Some in the specialty are concerned with the FDA's new advisory, which is a departure from its former recommendation targeting hemodialysis only for patients with end-stage renal disease.

"The data are not all in yet, but present data seem to indicate that the

vast majority of NSF patients to date had severe renal disease or end-stage renal disease at the time of diagnosis or administration of the gadolinium-based MR contrast agent," said Emanuel Kanal, M.D., who delivered a hot topic presentation on the gadolinium and NSF connection at RSNA 2006. Director of Magnetic Resonance Services and a professor of radiology and neuro-radiology at the University of Pittsburgh Medical Center, Dr. Kanal is chair of the American College of Radiology (ACR) MR Safety Committee.

Dr. Kanal pointed out that more than one of every four patients over age 70 has moderate renal disease according to the accepted definition of glomerular filtration rates (GRFR)

*Continued on next page*



(cover image) Arm of a patient diagnosed with nephrogenic systemic fibrosis (NSF). The disease is characterized by extensive thickening of the skin, often associated with brawny hyperpigmentation and, in some cases, distinct papules and subcutaneous nodules.

Cowper SE. Nephrogenic Fibrosing Dermopathy [NED/NSF Website]. 2001-2007. Available at [www.icrfdr.org](http://www.icrfdr.org). Accessed 01/15/2007.

Continued from previous page

of  $<60$  ml/min/1.73 m<sup>2</sup>. Advising hemodialysis for all of these patients—hemodialysis they likely would not have been undergoing otherwise—might expose them to potentially greater risks than those associated with withholding contrast enhancement for their studies, he said.

The elderly population is among the highest utilizers of MR imaging today, Dr. Kanal noted. “In our institution we apply similar cautions to patients with GRFR values of  $<30$  ml/min/1.73 m<sup>2</sup>,” he said. “Of course for every patient with renal disease, we prospectively and individually review the risks versus

benefits of administering a gadolinium-based MR contrast agent.

“It would take a significant degree of renal impairment and strong indication for MR contrast administration for us to consider initiation of hemodialysis following administration on a patient who was not already undergoing it.”

In addition, healthcare professionals and patients are urged to report

possible cases of NSF to the FDA.

“This connection has the potential to affect any patient with severe renal disease who’s about to undergo an MR imaging exam and receive a gadolinium-based MR contrast agent,” said Dr. Kanal.

The ACR MR Safe Practice Guidelines for 2007, presently in press and soon to be published in the *American Journal of Roentgenology* (AJR) and online at [www.ajr.org](http://www.ajr.org) and the American College of Radiology Web site ([www.acr.org](http://www.acr.org)), will include a warning

about gadolinium, NSF and renal disease. The guidelines will be continuously updated as more is learned about the gadolinium-NSF connection and why it occurs.

The FDA issued its first warning last summer, when a study released by the Danish Medicines Agency showed that 20 of 400 patients with severe renal disease who received the gadolinium-based contrast agent Omniscan™ (made by GE Healthcare) were diagnosed with NSF. Another report from Austria indicated that five of nine patients imaged with gadolinium-based agents developed NSF.

By late October 2006, the FDA had received reports of 57 cases of NSF where a gadolinium-based contrast agent had been given. NSF began generally within a few days to months after exposure to the contrast agent. While many patients received a high dose, some received only standard doses of these agents.

Around 90 percent of NSF cases reported to date followed the intravenous administration of Omniscan. Six cases followed the administration of Magnevist® (made by Berlex Laboratories, Inc.) and two followed the administration of OptiMARK® (made by Mallinckrodt, Inc.).

There have been no NSF cases reported so far in connection with the use of MultiHance® and ProHance® (both made by Bracco Diagnostics, Inc.). Both have strong chelate bonds with the gadolinium, leading some researchers to speculate as to whether there is a connection between NSF and a weak chelate bond. The FDA, however, has warned of the potential for NSF to develop following administration of any currently approved gadolinium-based agent.

Dr. Cowper maintains a separate database registry of more than 200 NSF/NFD cases and undertook a survey to determine how many had been exposed to a gadolinium chelate within two to three months prior to disease onset. Dr. Cowper determined that 95

percent of the almost 100 patients surveyed had received a gadolinium-based contrast agent within the time frame.

In several patients with NSF, gadolinium was found in their bodies four and 11 months after contrast agent injection—a finding Dr. Kanal called “off-the-chart unusual,” given that gadolinium is usually cleared from the body in just a few hours in patients with normal renal function. Biopsies have also found other metals in the bodies of patients with NSF, suggesting a possible transmetalation of the chelate in the gadolinium compound.

It is for those who practice MR imaging to recognize that they are essentially the only source of gadolinium exposure for the general population, said Dr. Kanal.

“As more is discovered literally every few weeks about this rare disease and the role played by gadolinium-based MR contrast agents in its development, it will be important for all of us to stay abreast of these findings so we can ensure safe and diagnostically efficacious MR scanning for our patients worldwide,” he said. □

## Radiology

In a *Radiology* editorial, Dr. Kanal and colleagues lay out their approach to performing on MR imaging on patients with kidney disease. The full text of “Gadolinium-based MR Contrast Agents and Nephrogenic Systemic Fibrosis” is available online in the Continuous Publishing section at [RSNA.org/radiologyjnl](http://RSNA.org/radiologyjnl).

Also available in the Continuous Publishing section is “Nephrogenic Systemic Fibrosis: Risk Factors and Incidence Estimation” by Elizabeth A. Sadowski, M.D., and colleagues at the University of Wisconsin.

■ Information from the FDA on the connection between gadolinium and NSF can be found at [www.fda.gov/cder/drug/infopage/gcca/default.htm](http://www.fda.gov/cder/drug/infopage/gcca/default.htm). More information about NSF can be found at [www.icnldr.org](http://www.icnldr.org).

■ Note: This article was adapted from a story that appeared in the RSNA 2006 *Daily Bulletin*. The **Daily Bulletin** daily newspapers from the annual meeting are available online at [RSNA.org/bulletin](http://RSNA.org/bulletin).

■ To read the abstract of Dr. Kanal’s presentation, “Association of Gadolinium-Chelate MR Contrast Agent Intravenous Administration with the Development of Nephrogenic Systemic Fibrosis in Patients with Severe Renal Disease,” go to the RSNA Meeting Program at [rsna2006.rsna.org](http://rsna2006.rsna.org). The direct link is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?em\\_id=8002504](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?em_id=8002504).

## Milk Shows Promise as Contrast Agent

**A**LSO PRESENTED at RSNA 2006 was a gastrointestinal study that, when comparing whole milk with VoLumen, revealed slightly greater bowel distension with VoLumen but also indicated that milk is better tolerated and less expensive.

“Milk is a viable alternative to VoLumen and patients feel comfortable drinking milk, as it is a daily part of life for most people,” said Lisa Shah-Patel, M.D., a radiology resident at St. Luke’s-Roosevelt Hospital in New York. She added that while VoLumen costs \$18 per patient, whole milk costs just \$1.39 per patient when bought by the quart.

Dr. Shah-Patel and colleagues studied 168 adult patients, ranging in age from 24 to 90 years old, referred for oral and intravenous contrast enhanced abdominal/pelvic CT. Lactose intolerant patients were excluded from the study.

Sixty-two of the patients received 1,200 mL of VoLumen divided into two doses (300 mL immediately prior to the study and 900

mL at 30 minutes). The remaining patients received 600–1,000 mL of 4 percent milk divided into two doses (200–400 mL 20 minutes prior to CT acquisition and 400–600 mL at one hour).

CT images were obtained during the portal venous phase and excretory phase with low osmolality iodinated contrast, utilizing a single or 4 detector spiral unit. Independently and qualitatively evaluating the images for luminal distension of the antrum, duodenum, jejunum and ileum, two radiologists found VoLumen yielded slightly greater bowel distension. Antral and ileal wall definition were about equal in the two groups.

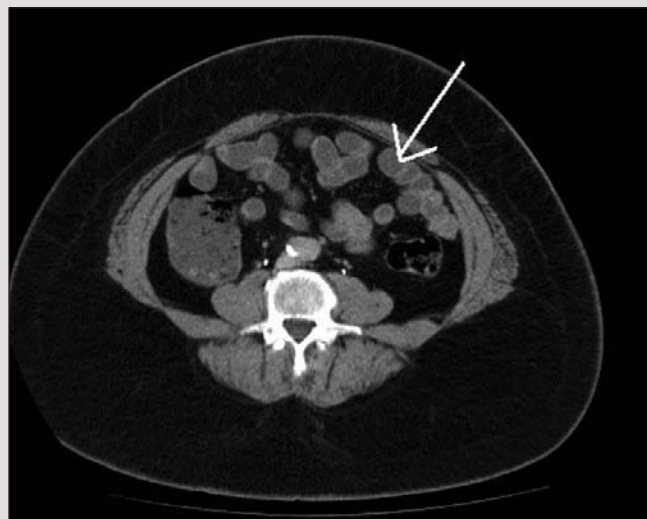


**Lisa Shah-Patel, M.D.**

A patient questionnaire regarding gastrointestinal symptoms indicated milk’s advantages, said Dr. Shah-Patel. Of patients given VoLumen, 42 percent experienced abdominal discomfort such as cramps, diarrhea and nausea. Only 25 percent of the patients who received milk reported similar abdominal discomfort.

“VoLumen provided greater bowel distension than milk,” she said. “But patients are more willing to drink milk than VoLumen, and milk is also much cheaper. In the future, milk may play a role with patients, such as children, who refuse to drink traditional oral contrast agents.”

■ To read the abstract of Dr. Shah-Patel’s presentation, “Cost-effectiveness and Patient Tolerance of Low Attenuation Oral Contrast: Milk versus VoLumen,” go to the RSNA Meeting Program at [rsna2006.rsna.org](http://rsna2006.rsna.org). The direct link is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?em\\_id=4427145](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?em_id=4427145)



**CT image of milk in the small bowel.**

Images courtesy of Lisa Shah-Patel, M.D.



**CT image of VoLumen in the small bowel.**

# Increased CAD Use Prompts Look at Advantages, Drawbacks

**W**HILE INTEREST in computer-aided detection (CAD) has boomed over the last 20 years, questions still remain about its place in clinical radiology. The benefits of CAD make it an increasingly appealing resource, experts said, however its limitations make it a complement—not a substitute—for radiologists' training and experience.

In an RSNA 2006 special focus session, "Computer-aided Detection: Friend or Foe?," a panel representing academic institutions across the U.S. addressed CAD's effectiveness, legal implications in using or avoiding CAD and the benefits and the limitations of using CAD to assist in detecting cancer, particularly with mammography.

Measuring CAD's effectiveness in clinical studies is difficult, said Robert Nishikawa, Ph.D., an associate professor in the Department of Radiology at the University of Chicago. "It's complicated because cancer rates vary," he said.

On the upside, said Dr. Nishikawa, are the "intangible benefits" of CAD, such as its ability to find microcalcifications and how it might help radiologists combat "Friday afternoon fatigue." But those benefits must be weighed, he added, against the critical issue of training radiologists in how to use CAD—he estimates an average two-year learning curve.

James Brenner, M.D., J.D., professor of radiology at the University of California, San Francisco, said CAD's legal implications are as significant as its power. "Should courts be allowed to permit CAD evidence to support the



**Representatives from academic institutions across the U.S. addressed not only the effectiveness of computer-aided diagnosis but also the legal implications of using or avoiding it.**

defendant?" he asked. "After all, you can't cross-examine CAD."

The bottom line, said panelist Liane E. Philpotts, M.D., is to practice caution when using CAD. It may help increase cancer detection rates, she said, but sensitivity and specificity are still less than optimal.

"False-positives are the main problem," said Dr. Philpotts, an associate professor of diagnostic radiology and chief of the breast imaging section at Yale University. Use of CAD also increases recall rates and may ultimately be more helpful to non-experts than experts, she added.

Dr. Philpotts said relying too heav-

ily on CAD can give radiologists a false sense of confidence, which can be truly detrimental. Automation bias, she said, may cause radiologists to say to themselves, "If CAD didn't mark it, maybe I don't need to recall it."

Those drawbacks—along with CAD's documented poor reproducibility and potential to cause reader fatigue—make CAD only useful as a last step in mammography, Dr. Philpotts said, adding that radiologists shouldn't rely on CAD to prescreen and interpret mammograms as usual.

CAD advocate Robyn Birdwell, M.D., championed its use with a few conditions. The practice of reading mammograms, with its high volume and low incidence of disease, is inherently stressful, she said. "It's emotional

*Panelist Robert Nishikawa, Ph.D., estimated a two-year learning curve for CAD users.*

and it makes us legally vulnerable,” said Dr. Birdwell, section head of breast imaging at Brigham and Women’s Hospital at Harvard University in Boston.

As a consequence, said Dr. Birdwell, fewer people are going into radiology and a potential personnel crisis looms. Although the most accurate practice for cancer detection is double reading, a dwindling workforce may make that impossible, said Dr. Birdwell. In that case, she said, CAD could be a significant benefit.

Dr. Birdwell admitted CAD isn’t perfect but also pointed to statistics indicating that double mammogram readings increase cancer detection by 3–15 percent, while CAD readings increase detection 7–20 percent.

Alluding to the session title, Dr. Birdwell urged radiologists to strike a peaceful accord with CAD. “Why not employ a pretty good helper if it’s available?” she asked. □

■ Note: These articles were adapted from stories that appeared in the RSNA 2006 *Daily Bulletin*. The daily newspapers from the annual meeting are available online at [RSNA.org/bulletin](http://RSNA.org/bulletin).

**Daily Bulletin**

■ To read the abstract of Dr. Barr’s presentation “Initial Results of Breast Real-time Elasticity Imaging to Characterize Lesions,” go to the RSNA Meeting Program at [rsna2006.rsna.org](http://rsna2006.rsna.org). The direct link is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?em\\_id=4432363](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?em_id=4432363). An online presentation is also available at this link.

## Technique Adds Software to Ultrasound for Real-time Lesion Characterization

ALSO OF INTEREST to breast imagers at RSNA 2006 was discussion of a new technique known as elasticity imaging. Employing software that looks at ultrasound frames as they’re collected, the technique has been shown to characterize breast lesions as benign or malignant with high sensitivity and specificity.

The technique has been evaluated for several years, said presenter Richard G. Barr, M.D., Ph.D. People have made the observation that lesions look bigger on the elasticity image when they are malignant, and look smaller when they are benign, he said.

The study used real-time, freehand, elasticity imaging to evaluate 72 lesions—both benign and malignant—in 49 patients. All solid lesions or complex cystic masses were biopsy proven or stable for two years.

The combination of real-time ultrasound and improved resolution made the studies possible, said Dr. Barr, of Radiology Consultants Inc., in Youngstown, Ohio. Since elasticity imaging is not yet FDA-approved, researchers started a study looking at women referred for ultrasound-guided biopsy.

“We did the elasticity imaging as part of the biopsy, measured the lesion size, and then compared the results to the biopsy reports to see if they were benign or malignant,” said Dr. Barr.

A total of 56 benign and 16 malignant

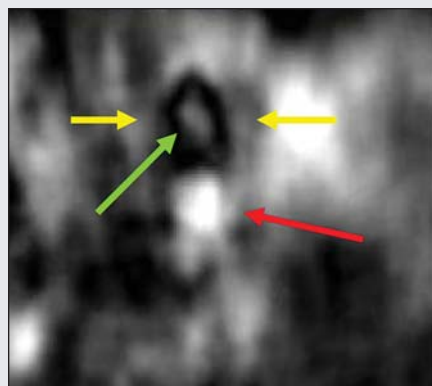
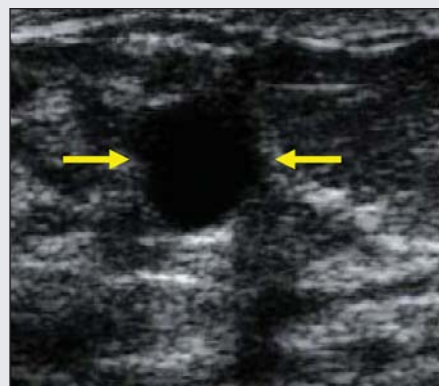
lesions were evaluated. When the elasticity image was smaller than the fundamental image, the lesion was characterized as benign. When the elasticity image was larger, the lesion was characterized as malignant. Both sensitivity and specificity were 100 percent.

Optimistic about the findings, Dr. Barr cautions that the technique is still in an experimental phase and the results must be confirmed. “We really need to do a multicenter trial with multiple investigators confirming our results before they can be widely applied,” he said.

The technique is relatively easy to teach, said Dr. Barr, and because elasticity imaging is a software technique, a patient does not even necessarily know the radiologist is doing anything different than the standard ultrasound exam.

Dr. Barr reported several patients in the study were believed to have solid lesions but when evaluated using elasticity imaging, “We realized that they were actually cysts. So we were able to just aspirate them.”

Elasticity imaging could play a key role in correlating imaging with pathology, Dr. Barr said. “We believe this technique is going to be extremely helpful in characterization of breast lesions,” he said. “We’re still in the early phases of this. I don’t know if we will be able to completely eliminate the need for benign biopsies, but I think we will eliminate some.”



### Biopsy Proven Simple Breast Cyst.

On the left is a conventional ultrasound image. The image on the right, acquired at the same time with the same signals, is an elasticity image. The elasticity image has a “bull’s eye” appearance with the lesion black (yellow arrows) with a bright spot in the center (green arrow) and a bright spot behind the cyst (red arrow). The study indicated that both simple cysts and benign complex cysts have this appearance. Also notable is that the size of the cyst is smaller on the elasticity image, which suggests it is a benign lesion.

# Successful Abstract Submission Involves Some Art, More Science

**S**HAKESPEARE wrote in *Hamlet* that brevity is the soul of wit. His description is also apt for the art of submitting abstracts for the RSNA annual meeting.

The abstract submission process, which opens in January each year, attracts thousands of studies from intrepid authors around the world. Regardless of how well-executed the study or how compelling the science, an abstract that isn't complete or well-prepared has diminished chances of being accepted.

"We're looking for completed research that has a sound, scientific methodology and that clearly presents its results and conclusions," said Gerald D. Dodd III, M.D., professor and chair of the Department of Radiology at the University of Texas Health Science Center at San Antonio. As chair of the RSNA Scientific Program Committee, Dr. Dodd oversees the hundreds of volunteers who review submitted abstracts and decide which should be accepted for presentation at the annual meeting.

Submissions for the RSNA annual meeting fall into two broad categories—science or education. Scientific papers present completed hypothesis-driven research or report the ongoing research of emerging ideas. Education exhibits are designed to teach or review radiologic signs, pathologic correlations, procedures, techniques, treatments and interventions related to the practice of imaging.

Regardless of the category, the submitted abstract should provide a brief summary of each of the main sections

of the paper, including the statement of purpose or hypothesis, materials and methods, results and conclusion.

## Hypothesis-Driven Research Sought

The abstract's statement of purpose presents the goals of the research. The hypothesis being tested or procedure being evaluated should be clearly and concisely stated, said Robert M. Quencer, M.D., chair of the Department of Radiology at the University of Miami.

"Sometimes we get abstracts that have no well-defined purpose at all, or they only say, 'we are going to compare X and Y,' without explaining what the significance of doing so may be," said Dr. Quencer, who will become chair of the Scientific Program Committee for RSNA 2008. "Abstracts should be hypothesis-driven."

RSNA asks authors to briefly sum up a study's clinical significance as well. "We're looking for new information, new research that changes the



**Robert M. Quencer, M.D.**  
University of Miami

study and resubmit it, it should present new data."

Added Dr. Quencer, "What is important is demonstrating the reproducibility of the findings."

The methods and materials section of the abstract should specify exact figures regarding the study population and

the method of sample collection. A common mistake made by researchers is what Dr. Dodd called a "promissory note," where the author has not yet actually done the research, but instead explains what they will be doing.

"That's a surefire way to get rejected," Dr. Dodd said.

Though there is no minimum sample number, both Drs. Quencer and Dodd agreed that single case reports are not usually accepted. However, if the research is particularly novel or compelling, studies with a small number of cases may be considered, they said.

### ■ The deadline for abstract submission is April 15, 2007.

Please note that the deadline has been changed to **NOON Central Standard Time**, 12 hours earlier than in previous years.

Submitters will be notified in late June about the status of abstracts submitted for education exhibits and in late July about those submitted for scientific papers and posters.



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clinical practice," said Dr. Dodd. Abstracts that only reiterate established knowledge probably won't be accepted, he said. On the other hand, larger studies that validate a previous initial observation may have scientific value, he said.

"However," he warned, "If someone is going to enlarge their previous



Education exhibits, such as the hard copy ones seen here at RSNA 2006, are designed to teach or review radiologic signs, procedures and other fundamentals of imaging practice.

The final sections of the abstract, the results and conclusion, should draw on the clinical significance of the study and directly follow the research goals given in the hypothesis.

### Writing Should Be Same Quality as Research

A successful abstract is as well-written as it is complete, said Drs. Quencer and Dodd. Abstracts are generally 250-300 words, so clarity and economy are important. Authors whose native language is not English, said Dr. Quencer, may want to seek assistance from someone who is facile with the language.

The path to a complete and well-written abstract, said Dr. Dodd, begins

before the research is finished. He encourages residents to choose research that asks meaningful scientific questions and maintains the importance of reporting positive results. "Studies that report negative results are generally not well-received," he said.

"Know your field well and know what has been written before so you are not redundant," Dr. Dodd concluded. His checklist for a good abstract: sound science, well-written and novel research that will impact clinical care.

"If you cover those bases, your chances of getting accepted are good," Dr. Dodd said.

### 5 Keys to Successful Abstract Submission

- 1 Plan ahead.** Because the volume of submissions increases as the deadline nears, RSNA cannot guarantee technical support for individuals who wait until almost April 15 to submit their abstracts.
- 2 Know your topic.** A full awareness of what exists in the literature helps you avoid being redundant.
- 3 Follow the directions.** Read carefully to make sure you are providing requested information in the requisite format.
- 4 Be clear and concise.** The abstract's statement of purpose should leave the reader with no doubt about the goals of the research.
- 5 Describe the clinical significance.** Reviewers are looking for research that moves the specialty forward, rather than just reiterates established knowledge.

### RSNA.org/abstracts

Additional information about abstract submission can be obtained by contacting RSNA at 1-877-776-2227 within the U.S. or 1-630-590-7774 outside the U.S.



### Education Exhibit Awards

RSNA presents education exhibit awards to recognize educational content and design excellence. An anonymous panel appointed by the RSNA Board of Directors judges the educational content of abstracts accepted for presentation at the annual meeting.

For design excellence awards, the Education Exhibits Committee uses RSNA criteria to determine how visually pleasing exhibits are and how well the information can be assimilated in a relatively short time.

Award winners are announced Wednesday afternoon during the annual meeting, before the Annual Oration in Radiation Oncology. Signs are also posted on the award-winning exhibits and a list of winners is published in the Thursday edition of the *Daily Bulletin*, the official newspaper of the RSNA annual meeting. See the RSNA 2006 winners at [RSNA.org/bulletin](http://RSNA.org/bulletin).



# Prostate Cancer Prognosis Changes in Face of New Treatments

**E**VEN AS a cutting-edge prostate cancer treatment gains momentum, an unprecedented study has shown the long-term efficacy of a more common method.

## Focal Cryoablation Emerges as Male Lumpectomy

A new treatment called focal cryoablation took its rationale from revolutions in breast cancer treatment. As many as 80 percent of prostate cancer patients may be candidates for the procedure, also known as the male lumpectomy, which has been shown to limit complications such as incontinence while preserving potency.

While surgical removal of the diseased portion of the prostate gland is not technically possible, focal cryoablation can destroy the diseased portion or portions, said Gary M.

Onik, M.D., director of surgical imaging at Celebration

Health/Florida Hospital. In the past it was incorrectly assumed that the disease involved the whole gland in all patients and that the entire prostate should be removed, like a mastectomy, he said.

“The whole-gland treatment for prostate cancer still has a significant morbidity, said Dr. Onik in an RSNA

2006 presentation. “If you can treat just the area of cancer, can you reduce the morbidity?”

Dr. Onik has followed up with 55

out of 96 patients an average of 3.5 years after focal cryoablation. Fifty-two of the 55 are biochemically disease-free under the American Society for Therapeutic Radiology and Oncology (ASTRO) criteria.

All patients without previous prostate surgery or radiation therapy were continent immediately, said Dr. Onik, and 44 of the 51 patients who are disease-free are potent to their satisfaction. This is extremely important for men who are treated for prostate cancer, he said, as the emotional damage from incontinence and impotence can be as devastating as the loss of a breast to a woman with breast cancer.

Dr. Onik said patients with a unifocal tumor or one large index tumor and another small tumor less than 5 mm in diameter are candidates for the procedure, while patients with diffuse disease are not.

To determine the location of the cancer, Dr. Onik does a mapping biopsy every 5 mm and tests every specimen based on its location. As a transrectal ultrasound scan (TRUSS) can often miss a cancer, 3D mapping is necessary, he said. “Once you know where the cancer is, you can destroy it very reliably versus overall cryotherapy or radiation,” he said.

Results are better than with other standard treatments with the added ben-



**Gary M. Onik, M.D.,** presented the results of his focal cryoablation study at RSNA 2006.

efits of continence and high potency rates, said Dr. Onik. “These early results encourage larger controlled trials,” he said.

## IMRT Reinforced as Localized Cancer Treatment

Meanwhile, the largest study to date of prostate cancer treated with intensity modulated radiation therapy (IMRT) shows the majority of patients remain alive with no evidence of the disease an average of eight years later.

Researchers from Memorial Sloan-Kettering Cancer Center in New York studied 561 men treated with IMRT. They reported in the October 2006 issue of *The Journal of Urology* that 89 percent of men in a favorable risk group were disease-free, while none of the men developed secondary cancer as a result of radiation therapy.

The results suggest IMRT should be the treatment of choice for patients with localized prostate cancer, said Michael F. Zelefsky, M.D., chief of the Brachytherapy Service at Memorial Sloan-Kettering. □

### For More Information

Additional details about the studies cited in this article are available online.

■ “The Male Lumpectomy: Focal Cryoablation in Treating Prostate Cancer Preserves Potency and Continence”—[rsna.org/rsna2006/V2006/conference/event\\_display.cfm?id=66601&em\\_id=4428068](http://rsna.org/rsna2006/V2006/conference/event_display.cfm?id=66601&em_id=4428068).

■ “Long-Term Outcome of High Dose Intensity Modulated Radiation Therapy for Patients with Clinically Localized Prostate Cancer”—[www.jurology.com/article/PIIS0022534706013711/abstract](http://www.jurology.com/article/PIIS0022534706013711/abstract).





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# Career Connection

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# Watching It All Come Together Inspires Research Resident

**R**SNA Research Resident Mark D. Hiatt, M.D., M.B.A., recently found himself in a situation prized by physicians—at the intersection of training, technology and timing, with a patient as the beneficiary.

A coronary CT angiogram revealed that the right coronary artery of a young athlete had an anomalous origin and course, passing between his aorta and pulmonary trunk, a potentially dangerous condition that easily could have been overlooked. With the help of a CT scan and Dr. Hiatt's well-trained eye, however, the man received needed cardiologic consultation.

"The patient was oblivious to the congenital coronary defect," said Dr. Hiatt, an attending radiologist for Trinity Mother Frances Health System in Tyler, Texas. "The CT scan may have been the best few hundred dollars the guy ever spent."

Dr. Hiatt began his medical training at Wake Forest University and completed his residency and a 2001 RSNA Research Resident project at the University of Virginia (UVa). Obtaining a master's degree in health evaluation sciences at

UVa, Dr. Hiatt found that his study of healthcare economics, epidemiology, biostatistics, informatics and database management enabled him to move beyond simply working with new technologies to assessing their effectiveness.

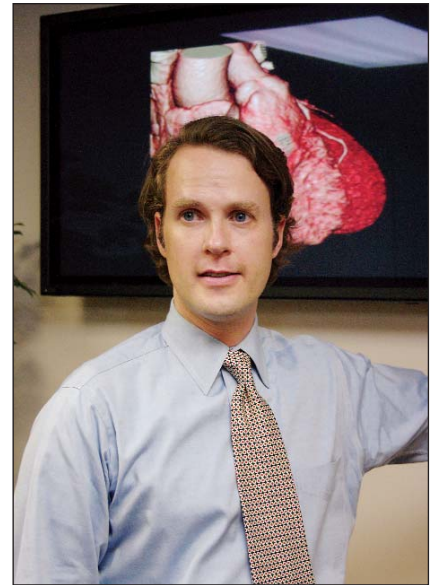
Assessing new technology is particularly crucial in radiology because the field is evolving at such a rapid pace, Dr. Hiatt said. "It is important to be able to evaluate the outcomes of new technologies," he said.

Dr. Hiatt's evaluation skills proved instrumental for his RSNA research project, which explored the efficacy of vertebroplasty in treating compression fractures. "There was a lot of media hype about how infirm patients, who couldn't walk, rose up off the table after vertebroplasty in Lazarus fashion, casting away their canes," said Dr. Hiatt, referring to the Biblical character raised from the dead.

"We objectively took a large group of patients who had undergone vertebroplasty and analyzed whether they got better," he continued. "Our results showed that improvement was indeed associated with the procedure."

An Institutional Clinical Fellowship that Dr. Hiatt received from RSNA in 2003 allowed him to focus on cardiovascular imaging, which he calls his true passion. The fellowship defined his career, he said, enabling him to gain experience in a cutting-edge area of radiology under excellent mentors at Stanford University.

During the fellowship, Dr. Hiatt acquired and interpreted CT and MR images of patients with a broad spectrum of cardiovascular disease. He also developed an in-depth understanding of CT and MR technology as applied to the cardiovascular system, became proficient in 3D and other post-processing techniques and taught cardiovascular imaging to radiology trainees.



**Mark D. Hiatt, M.D., M.B.A.**

Dr. Hiatt said his training at Stanford, along with new imaging technology, helped him spot his patient's elusive congenital defect. He said the man likely would not have been willing to bear the risks and expense of a more traditional cardiovascular examination,

including dedicating most of a day to undergoing anesthesia for the insertion of a catheter. The less invasive CT scan, on the other hand, offered valuable information within minutes.

"With CT, the coronary arteries were amazingly well-depicted in their caliber and courses," said Dr. Hiatt. "I could see that he had this rare pathology. It was satisfying to be able to pick this up because I had been trained to look for it." □

*It is important to be able to evaluate the outcomes of new technologies.*

**Mark D. Hiatt, M.D., M.B.A.**

■ Additional information about RSNA R&E Foundation research grant programs and other past recipients is available at [RSNA.org/foundation](http://RSNA.org/foundation).

#### *A Little Bit More About...*

**Mark D. Hiatt, M.D., M.B.A.**

**Q.** What's playing in your reading room?

**A.** Vivaldi.

**Q.** When did you decide you wanted to pursue radiology research?

**A.** In high school, when I was irradiating seeds to see if there would be differences in their germination.

**Q.** At what age did you first become aware of radiology?

**A.** 15.

**Q.** What do you do for relaxation?

**A.** Play racquetball.

**Q.** Do you have any pets?

**A.** Two kittens.

**Q.** What is one place you've been that everyone should go?

**A.** Rome.

**Q.** What is your favorite meal?

**A.** Penne all'arrabiata.

**Q.** What is your favorite travel destination?

**A.** The beach.



# Research & Education Foundation Donors

THE BOARD OF TRUSTEES of the RSNA Research & Education Foundation and its recipients of research and education grants gratefully acknowledge the contributions made to the Foundation  
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For more information on Foundation activities, go to [RSNA.org/foundation](http://RSNA.org/foundation).

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**RADIATION SAFETY**

**Answer**

[Question on page 1.]

**A** DSA works by subtracting one image from another. This adds noise. Display contrast stretching (to see the vessels) enhances noise. X-ray quantum noise can only be suppressed by increasing the dose per frame.

Q&A courtesy of AAPM.

RSNA Research &amp; Education Foundation

# Roentgen Resident/Fellow Research Award

Deadline for nominations – April 1, 2007

**T**HE 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.



Nomination forms are available for download at [RSNA.org/Foundation/upload/RRFRA\\_nom.pdf](http://RSNA.org/Foundation/upload/RRFRA_nom.pdf).

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**Darlene Da Costa, M.D.**  
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**Geoffrey P. Doherty, M.D., M.Sc.**  
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Mount Sinai Medical Center, New York

**Tanya M. Fields, M.D.**  
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**Robert Brian Fortuna, M.D.**  
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**Christopher François, M.D.**  
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**Michael S. Gee, M.D., Ph.D.**  
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**Azad Ghassemi, M.D.**  
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**Dan Gill, M.D.**  
McGill University Health Centre

**Jeffrey Gramp, M.D.**  
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**Arthur C. Groves IV, M.D.**  
Saint Barnabas Medical Center

**Vikas Gulani, Ph.D., M.D.**  
University of Michigan

**Nidhi Gupta, M.D.**  
University of Arkansas for Medical Sciences/ Arkansas Children's Hospital

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**Johnathan L. Hadley, M.D.**  
Eastern Virginia Medical School

**Scott Harris, M.D.**  
Memorial University of Newfoundland

**Paul S. Harrod-Kim, M.D.**  
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**Mohammad Helmy, M.D.**  
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**Timothy Ben Johnson, D.O.**  
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**Manoj Ketkar, M.D.**  
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**Abdul-Majid Khan, M.D.**  
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**Jehanzeb Khan, M.B.B.S., M.D.**  
Yale New Haven Hospital

**Mustafa Khan, M.D.**  
University of Western Ontario

**Christopher Klassen, M.D.**  
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**Grant E. Lattin Jr., M.D.**  
David Grant Medical Center

**Kenneth F. Layton, M.D.**  
Mayo Clinic

**Karen S. Lee, M.D.**  
Beth Israel Deaconess Medical Center

**Dayna Levin, M.D.**  
Thomas Jefferson University Hospital

**Robert J. Lewandowski, M.D.**  
Northwestern University

**Hank M. Lin, M.D.**  
Rhode Island Hospital/Brown Medical School

**Evangelos A. Liokis, M.D.**  
Ochsner Medical Center

**Howard Liu, M.D.**  
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**Oscar J. Longoria, M.D.**  
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**Darren P. Lum, M.D.**  
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**Bradford McCrary, M.D., Ph.D.**  
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**Matthew B. Morgan, M.D.**  
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**Daniel Mott, M.D.**  
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**Scott R. Naspinsky, M.D.**  
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**James P. O'Brien Jr., M.D.**  
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**Qian Oliver, M.D.**  
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**Eleanor Lee Ormsby, M.D.**  
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**John Jun-Hao Pan, M.D.**  
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**Jinha Park, M.D., Ph.D.**  
David Geffen School of Medicine at UCLA

**John S. Park, M.D.**  
University of Maryland Medical System

**Jaywant P. Parmar, M.D.**  
University of Virginia Health System

**Bijal Patel, M.D.**  
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**Ivan Petrovitch, M.D.**  
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**Shervin Raffie, M.D.**  
University Hospitals of Cleveland

**Priya Rastogi, M.D.**  
St. Vincent's Medical Center

**Christopher C. Riedl, M.D.**  
Memorial Sloan-Kettering Cancer Center

**Bryan E. Scott, M.D.**  
Rochester General Hospital

**Sarah A. Shock, M.D.**  
New York University School of Medicine

**Benjamin D. Smith, M.D.**  
Yale University School of Medicine

**Scott D. Steenburg, M.D.**  
Medical University of South Carolina

**Jonathan Streeter, M.D.**  
Brigham and Women's Hospital

**Lily Tang, M.D.**  
University of California, San Diego Medical Center

**Bradley P. Thomas, M.D.**  
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**Ami M. Trivedi, M.D.**  
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**Shambhavi Venkataraman, M.B., B.S.**  
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**Timothy D. Watson, M.D.**  
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**Jubal R. Watts Jr., M.D.**  
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**Aaron F. Wittenberg, M.D.**  
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**Eric Y. Yeh, M.D.**  
Indiana University School of Medicine

**Charlotte Yong-Hing, M.D.**  
University of Alberta

**Phillip Young, M.D.**  
Mayo Clinic

**Syed Furqan Zaidi, M.D.**  
Beth Israel Medical Center

**Stephen I. Zink, M.D.**  
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**Walter Zink, M.D., Ph.D.**  
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**William B. Zucconi, D.O.**  
Stony Brook University Health Sciences Center

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**Igor Barani, M.D.**  
Virginia Commonwealth University Medical Center

**Matthew L. Cavey, M.D.**  
University of Texas Medical Branch at Galveston

**Samuel Chao, M.D.**  
Cleveland Clinic Foundation

**Arbind Dubey, M.B.B.S.**  
CancerCare Manitoba/University of Manitoba

**Daniel Benjamin Fried, M.D.**  
University of North Carolina at Chapel Hill

**Daniel Hamstra, M.D.**  
University of Michigan Medical School

**Shelly B. Hayes, M.D.**  
Fox Chase Cancer Center

**Curt Jan Heese, M.D.**  
Hahnemann University Hospital

**David J. Hoopes, M.D.**  
Indiana University School of Medicine

**Andrew J. Hope, M.D.**  
Washington University School of Medicine

**Eugene H. Huang, M.D.**  
University of Texas/M.D. Anderson Cancer Center

**Shruti Jolly, M.D.**  
William Beaumont Hospital

**Michelle L. Klem, M.D.**  
Memorial Sloan-Kettering Cancer Center

**Bobby N. Koneru, M.D.**  
Northwestern Memorial Hospital

**Nicolas Kuritzky, M.D.**  
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**Nadia N. Laack, M.D.**  
Mayo Clinic

**Christopher M. Lee, M.D.**  
University of Utah, Huntsman Cancer Hospital

**Stanley S. Liauw, M.D.**  
University of Florida College of Medicine/JF Shands Cancer Center

**Suneel N. Nagda, M.D.**  
Loyola University Medical Center

**Randal Oldroyd, M.D.**  
New York Methodist Hospital

**John Plastaras, M.D., Ph.D.**  
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**Igor Poltinnikov, M.D.**  
Thomas Jefferson University Hospital/Jefferson Medical Center

**Katelyn A. Raj, M.D.**  
Duke University Medical Center

**Joseph Salama, M.D.**  
University of Chicago

**Jinesh N. Shah, M.D.**  
Columbia University Medical Center

**Reza Shirazi, M.D.**  
University of Cincinnati

**Phuoc T. Tran, M.D., Ph.D.**  
Stanford University Medical Center

**James J. Urbanic, M.D.**  
Wake Forest University School of Medicine

**Samuel J. Wang, M.D., Ph.D.**  
University of Texas Health Science Center at San Antonio

**Hong Zhang, M.D., Ph.D.**  
University of Rochester Medical Center

#### NUCLEAR MEDICINE

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**Kush Kumar, M.D.**  
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**Steven A. Messina, M.D.**  
University of Maryland

**Khurram Rashid, M.D.**  
Danbury Hospital

**Jabi E. Shriki, M.D.**  
Mallinckrodt Institute of Radiology/Washington University School of Medicine

# Journal Highlights

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

## PET/CT: Form and Function

**A**TTEMPTS to align CT and PET datasets with fusion software are generally successful in the brain; however, researchers continue to address challenges in other areas of the body owing to the increased number of degrees of freedom between the two datasets.

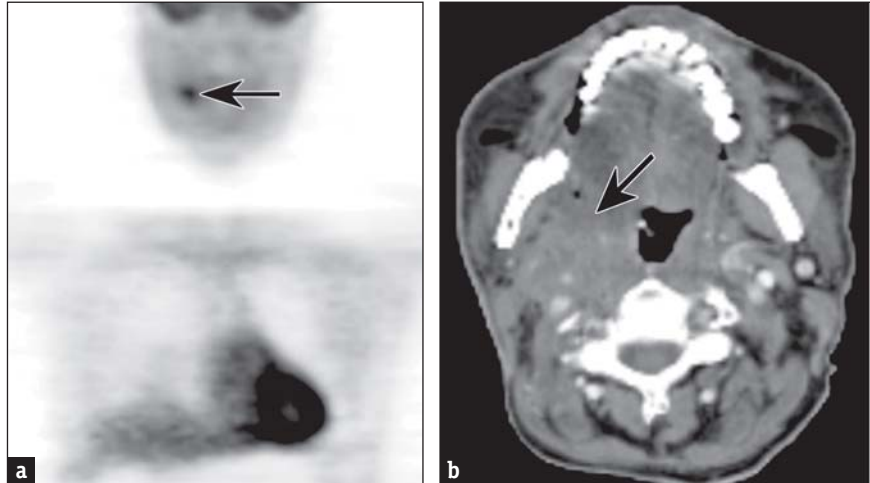
In an article in the State of the Art section of the February issue of **Radiology** (*Radiology* (RSNA.org/radiologyjnl), Todd M. Blodgett, M.D., of the University of Pittsburgh, Carolyn C. Meltzer, M.D., now of Emory University and David W. Townsend, M.D., of the University of Tennessee describe recent technologic developments in PET/CT and the clinical indications for which combined PET/CT has proven more useful than PET and CT performed separately.

The authors note that many studies published over the past few years demonstrate what was expected intuitively—that for many clinical applications, fused PET/CT images consistently outperform CT and PET images acquired separately and viewed together.

Specifically, the authors address:

- PET/CT imaging technology, instrumentation and protocols
- Clinical applications and overall performance of PET/CT in anatomic regions including the brain and head and neck
- Applications and performance in conditions including thyroid carcinoma, lung, esophageal, breast and colorectal cancers, lymphoma and melanoma

“There are still issues related to how the CT portion of a PET/CT examination should be performed, as well as whether intravenous and oral contrast materials are needed, but PET/CT will



### PET/CT restaging in 56-year-old man after radical neck dissection and radiation therapy.

(a) Coronal PET image shows focal abnormality (arrow) in neck region to the right of midline. Further localization is difficult with PET alone. (b) Transverse CT image shows extensive posttreatment changes (arrow), with loss of fat planes and architectural distortion but no definite evidence of tumor recurrence. (c) Transverse fused PET/CT image shows two foci (arrows) of moderate to intense FDG uptake in right parapharyngeal space.

(*Radiology* 2007;242:360-385) © RSNA, 2007. All rights reserved. Printed with permission.

likely continue to gain in popularity and use in the field of oncology,” the authors write. “It offers imaging consolidation, decreased examination time and

increased throughput, as well as superior performance and exquisite localization capabilities.”

### Radiology Enhancements Designed with Readers in Mind

**T**WO NEW FEATURES in *Radiology* aim to help readers effectively manage and use the extensive copy offered in each issue.

Making its debut in the January issue, **This Month in Radiology** offers a one paragraph summary for each of 10 articles, selected by the editor, appearing in that month's issue of the journal.

In addition, the **Implications for Patient Care** feature will appear later in 2007 in a standard location with original research articles published in *Radiology*. Revised guidelines now ask authors to submit descriptions of how their study results might apply to patient care. When this information is provided, it will accompany the published manuscript.

“We hope our readers will find these new features valuable and welcome their feedback,” said *Radiology* Editor Anthony V. Proto, M.D.



## Functional MR Imaging of Prostate Cancer

**V**ARIOUS MR imaging techniques beyond conventional T2-weighted imaging can provide improved prostate cancer detection and localization—as well as information regarding the biologic behavior, volume and staging of cancers for individualized therapy—however, each technique has its limitations. These limitations include no standard parameters and low accuracy in the central region of the gland.

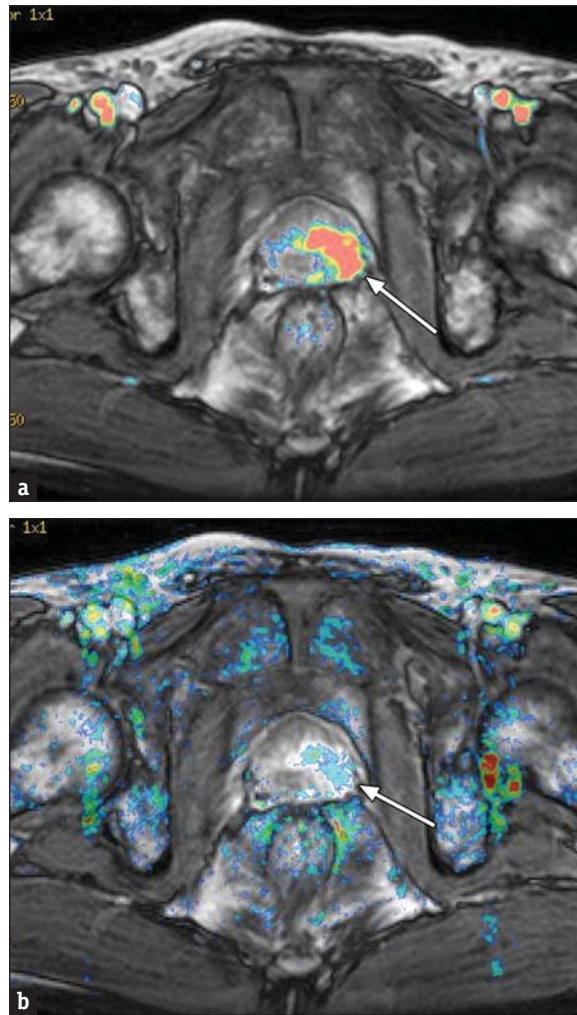
In an article in the January-February issue of *RadioGraphics* ([RSNA.org/radiographics](http://RSNA.org/radiographics)), Young Jun Choi, M.D., of the University of Ulsan in Seoul, South Korea, and colleagues describe the advantages and disadvantages of various techniques for prostate cancer detection and localization. An imaging modality is needed, the authors write, that allows accurate detection and localization of prostate cancer as well as local staging, biopsy guidance and adequate follow-up after treatment with intensity-modulated radiation, cryosurgery or ablation with high-intensity focused ultrasound.

Techniques discussed by the authors include:

- Dynamic contrast material-enhanced MR imaging
- Diffusion-weighted imaging
- MR spectroscopy

“A comprehensive evaluation in which both functional and anatomic MR imaging techniques are used with an understanding of their particular advantages and disadvantages may help improve the accuracy of MR for detection and localization of prostate cancer,” Dr. Choi and colleagues write.

### RadioGraphics



**Biopsy-proved adenocarcinoma in a 61-year-old man.** (a) Wash-in MR image obtained with a fast field echo sequence shows a lower wash-in rate in the right peripheral zone (arrow) than in other areas. (b) Washout MR image obtained with the same sequence as a shows a higher washout rate in the right peripheral zone (arrow) than in other areas.

(*RadioGraphics* 2007;27:63-77) © RSNA, 2007. All rights reserved. Printed with permission.

## Media Coverage of RSNA 2006

RSNA has received prominent placement in numerous national and international print and broadcast media after hosting 16 news conferences at RSNA 2006. Total placements exceed 3,800.

Notable print placements include *The New York Times*, *The Wall Street Journal*, *USA Today*, *Los Angeles Times*, *Chicago Tribune*, *Newsday*, *The Times* (London), *National Post* (Canada), *Time*, *Newsweek* and *BusinessWeek*.

Broadcast coverage includes stories televised nationally and internationally on CBS, NBC, ABC, FOX, CNN, CNN Headline News, C-SPAN, Discovery Channel, Telemundo and BBC.

Programs carrying coverage of news conference topics included *Good Morning America*, *Nightline*, *The Early Show*, *Fox and Friends*, *American Morning* and *ABC World News Now*. In addition, radio coverage included multiple placements on Voice of America, ABC Radio Network, CBS Radio Network, National Public Radio and CNN Radio.

Press conference topics receiving the most attention were an elasticity



**Vincent P. Matthews, M.D., spoke with reporters at RSNA 2006 about his study on the effects of violent video games on young brains.**

imaging technique to detect breast cancer, functional MR imaging of teenagers who play violent video games and a positional MR imaging study revealing proper sitting posture.



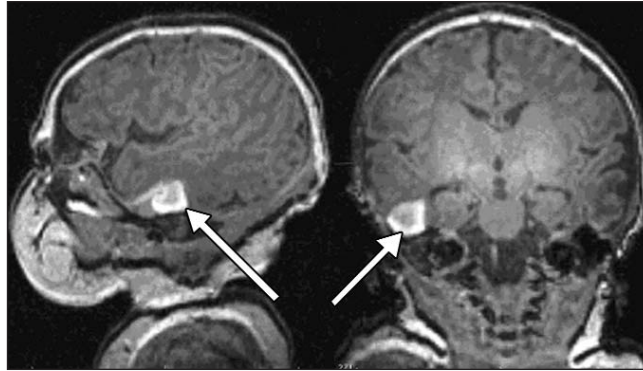
# Radiology in Public Focus

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

## Intracranial Hemorrhage in Asymptomatic Neonates: Prevalence on MR Scans and Relationship to Obstetric and Neonatal Risk Factors

**A** STUDY indicating that asymptomatic intracranial hemorrhage (ICH) in neonates may be more common than previously thought—and not associated with suspected risk factors—supports further study of how inherently traumatic vaginal birth may be to the infant brain and the long-term consequences, the authors conclude.

In the study by Christopher B. Looney, B.S., of the University of North Carolina, and colleagues, 97 neonates underwent MR imaging between the ages of 1 and 5 weeks. Of the 88 who completed the MR evaluation, 17 had asymptomatic ICHs. All 17 had been delivered vaginally, though ICH was not associated with prolonged



Sagittal (left) and transverse (right) T1-weighted three-dimensional magnetization-prepared rapid gradient-echo MR images in a neonate show intraparenchymal hemorrhage (arrow) in the temporal lobe.

(*Radiology* 2007;242:535-541)  
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duration of labor or traumatic or assisted vaginal birth.

In addition to the MR scans, researchers reviewed obstetric and neonatal data. “Neither assisted vaginal delivery nor evidence of neonatal birth trauma predicted ICH,” the authors write. “Indeed most (13/17, 76 percent) of the cases of ICH were in the setting of non-assisted vaginal birth.”

It is possible that incidental ICHs occurring after vaginal birth could have long-term consequences for neurocog-

nitive development, contribute to “idiopathic” epilepsy and increase the risk for complex neuropsychiatric disorders such as schizophrenia, the authors write. They add that ICH may also be a marker of traumatic forces that could cause more subtle injury to the developing brain but not be apparent on MRI imaging—transient ischemia or white matter tract damage, for example—which would also affect subsequent neurodevelopment.

## Contrast-enhanced MR Angiography of the Supra-Aortic Arteries at 3.0 T: Highly Parallel Acquisition for Improved Spatial Resolution Over an Extended Field of View

Contrast-enhanced MR angiography (CE-MRA) at 3.0 T, in combination with fast parallel acquisition, can outline the entire supraaortic circulation with high spatial resolution and detect arterial stenoses as accurately as CT angiography (CTA) and digital subtraction angiography (DSA), researchers have found.

Kambiz Nael, M.D., of the David Geffen School of Medicine at University of California, Los Angeles, and colleagues used a 3.0 Tesla breathhold high-spatial-resolution CE-MRA protocol with highly accelerated parallel acquisition to image the supraaortic

arteries of 80 patients with suspected arterial-occlusive disease. They compared the CE-MRA findings with the results of CTA performed on 12 of the patients and DSA performed on another 13.

“Our study indicated ... no statistically significant difference for detection of arterial stenoses as compared with CTA and DSA,” Dr. Nael and colleagues write.

The findings are significant given the disadvantages of CTA and DSA, the authors note. CTA’s drawbacks include radiation exposure, nephrotoxicity and sensitivity to artifacts from dental

amalgam and vascular calcifications, while DSA carries a 2.5 percent risk of transient ischemic attack and a small risk of permanent neurological deficit.

Advances in CE-MRA and CTA already have relegated DSA to intervention or when non-invasive test results are equivocal, the authors note, adding “If its potential is realized, 3.0 T scanning might enhance the performance of CE-MRA to the point where its spatial resolution can rival CTA without the known drawbacks.”

(*Radiology* 2007;242:600-609)

# Working For You

## RSNA Committees

This month *RSNA News* continues its series highlighting the work of RSNA's volunteer committees with a look at the *RSNA News* Editorial Board.

### RSNA News Editorial Board

**R**ESPONSIBLE FOR providing general editorial direction and support for RSNA's monthly newsmagazine, *RSNA News* editorial board members review content plans, suggest ideas for articles and review and approve content prior to publication. In 2006, the editorial board approved a new magazine feature called My Turn, a forum for guest contributors to discuss professional matters of personal importance.

To guide their decisions about the magazine,

editorial board members rely on data from surveys, online reports, annual meeting events and current science considered to be of interest to

RSNA members.

"The spectrum of expertise represented on our editorial board

provides strong input to each and every issue," said *RSNA News* Editor Bruce L. McClennan, M.D. "I am most grateful for their collective energy."



Bruce L. McClennan, M.D.

#### Working for you COMMITTEE PROFILE

### New RSNA Booth to Debut at ECR

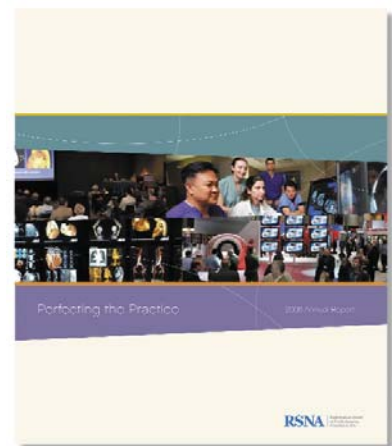


**A** NEW TRADESHOW BOOTH showcasing the RSNA mission and the benefits of membership will make its debut at the European Congress of Radiology in Vienna, Austria, in March.

RSNA staff will be at the booth to talk to potential members about what the Society has to offer and update attendees about the upcoming RSNA meetings. Staff can also assist current

RSNA members with questions about their benefits and help them access RSNA journals online.

The booth will also travel to the German Congress of Radiology in Berlin in May, American Society of Clinical Oncology in Chicago in June and Chinese Radiological Society in Nanjing in October. RSNA members attending these meetings are encouraged to stop by the RSNA booth.



### Annual Report Included with February RSNA News

The RSNA 2006 Annual Report was mailed to RSNA members with the February 2006 issue of *RSNA News*. Anyone who did not receive a copy and would like one sent to them should call the RSNA Membership Department at 1-877-RSNA-MEM or 1-630-571-7873. The annual report also is available online at [RSNA.org/About/upload/2006annualreport.pdf](http://RSNA.org/About/upload/2006annualreport.pdf).

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).

# Working For You

## Making MIRC Work

RSNA News continues its profiles of real-world users of RSNA's Medical Imaging Resource Center (MIRC).

This month's user is **J. Jeffrey Carr, M.D., M.S.**, a professor of radiology in breast and cardiovascular imaging and director of the Image Lab at Wake Forest University. Dr. Carr talked about how using MIRC helps him manage seemingly unwieldy volumes of clinical trials data.

*Making* **MIRC** *Work*

**RSNA.ORG/MIRC**  
RSNA'S FREE ONLINE RESEARCH  
AND EDUCATION TOOLS

**A**SK HIM what he likes best about MIRC, and Dr. Carr will cut right to the chase: "It just works," he said.

It's easy to see how Dr. Carr, who is tracking data for several multicenter clinical trials involving thousands of participants, would appreciate that basic utility. The MIRC Field Center application allows the quick transfer of data from remote sites while maintaining confidentiality, security and positive identification of research participants, he said. He added that the application is still useful even in

cases employing more traditional image transfer methods—that is, compact discs sent via overnight mail—as MIRC can process the images and

route them to the Picture Archiving and Communication System (PACS).

"We have implemented the MIRC suite of tools in a variety of ways to facilitate our research," said Dr. Carr. One example is the MIRC Toolkit, he

said, which has been useful for editing DICOM fields when identification numbers have been erroneously entered.

A user for more than three years, Dr. Carr said not only does the MIRC software work, so do the people. A subcommittee of the RSNA Radiology Informatics Committee oversees MIRC. "We have had a continuous dialogue with MIRC people at RSNA about current and

future needs of researchers related to deidentification, the Health Insurance Portability and Accountability Act, unique study identifiers and firewall issues," Dr. Carr said. "In all cases the open source nature of the MIRC project has resulted in improvements that have really made a difference in how we do quality imaging research in large and small studies."

Dr. Carr has used MIRC for two studies related to the Women's Health Initiative of the National Heart, Lung, and Blood Institute (NHLBI), as well as NHLBI's Coronary Artery Risk Development in Young Adults (CARDIA) study, comprising the cardiac CT exams of more than 3,300 participants.



**J. Jeffrey Carr, M.D., M.S.**

*The open source nature of the MIRC project has resulted in improvements that have really made a difference in how we do quality imaging research.*

**J. Jeffrey Carr, M.D., M.S.**

## 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 North America 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).

*Continued on next page*

# News about RSNA 2007

## Almost 62,000 Attend RSNA 2006

**A**TTEENDANCE at RSNA 2006 has been officially tallied at 61,976. The total includes an all-time high 27,065 professional attendees—among them 8,210 international attendees—28,052 exhibitors, 1,293 medical and associated sciences students and 177 members of the press.

## Abstract Submission Under Way

Abstracts are now being accepted for RSNA 2007. Abstracts are required for scientific papers, scientific posters and education exhibits. To submit an abstract, go to [RSNA.org/abstracts](http://RSNA.org/abstracts).

For more information about the abstract submission process, please see the article on page 12.

**The deadline for abstract submission is April 15, 2007. Please note that the deadline has been changed to NOON Central Standard Time, 12 hours earlier than in previous years.**

Additional information about abstract submission can be obtained by contacting RSNA at 1-877-776-2227 within the U.S. or 1-630-590-7774 outside the U.S. The latest news about RSNA 2007 is available at [rsna2007.rsna.org](http://rsna2007.rsna.org). The Web site will be updated through the year.

## Important Dates for RSNA 2007

<b>April 15</b>	Deadline for abstract submission
<b>April 23</b>	RSNA/AAPM member registration and housing opens
<b>May 21</b>	Non-member registration and housing opens
<b>June 18</b>	Refresher course enrollment opens
<b>Nov. 5</b>	Final advance registration and housing deadline
<b>Nov. 25-30</b>	RSNA 93rd Scientific Assembly and Annual Meeting

## Program and Grant Announcements

*Continued from previous page*

### World Conference on Interventional Oncology and Society of Thermal Medicine Joint Annual Meeting

May 14-18, 2007 • Washington Hilton Hotel

Looking globally at the role of image-guided interventions in cancer treatment, this conference will also take advantage of its proximity to federal agencies like the National Institutes of Health and the U.S. Food and Drug Administration. RSNA is co-sponsor of this conference. More information is available at [www.wcio2007.com](http://www.wcio2007.com).

### Revitalizing the Radiology Research Enterprise

Applications Accepted Through March 23

RSNA is accepting applications for the Revitalizing the Radiology Research Enterprise (RRRE) program site visit. The RRRE program is designed to help academic radiology departments improve their ability to conduct radiologic research. Six departments will be selected from applications made by departments of radiology, radiation oncology and nuclear medicine.

In addition, an RRRE 1½ day workshop planned for October 19-20 at RSNA Headquarters in Oak Brook, Ill., will focus on challenges to and strategies for conducting research in radiology and radiation oncology departments. For an application or information contact Tracy Schmidt, M.S., at [tschmidt@rsna.org](mailto:tschmidt@rsna.org) or 1-630-368-3751.



### Tools for Success in the Practice of Radiology

June 29-30, 2007 • RSNA Headquarters, Oak Brook, Ill.

Designed for current and future leaders, this course will be directed by Claire E. Bender, M.D., of the Mayo Clinic College of Medicine. The course will be customized so that participants not only learn about but also discuss proven tools for creating and sustaining success in the practice of radiology. Sessions on financial issues, strategic planning, staff development, compliance and legal matters will help participants confidently navigate the obstacles that radiology practices face.

Early registration is encouraged, as participation in this personalized interactive course will be limited. For more information on course registration and housing, go to [RSNA.org/education](http://RSNA.org/education) or contact the Education Center at 1-800-381-6660 x7772.



# News About RSNA Highlights

## Onsite Registration Still Available

**A**DVANCE REGISTRATION has closed, but those interested in RSNA Highlights: Clinical Issues for 2007 can still register onsite.

RSNA Highlights will be held February 26–28 at the J.W. Marriott Desert Ridge Resort & Spa in Phoenix, Ariz. To register onsite, go to the Grand Canyon Ballroom Foyer during these hours:

Sun., Feb. 25	3:00 p.m.–5:00 p.m.
Mon., Feb. 26	7:00 a.m.–5:30 p.m.
Tues., Feb. 27	7:00 a.m.–5:30 p.m.
Wed., Feb. 28	6:30 a.m.–12:00 p.m.

A concentrated educational package, RSNA Highlights offers four refresher courses each in cardiac imaging, PET/CT, breast imaging and sports injuries. Two hot topics courses, “Comprehensive Imaging for Acute Stroke Treatment” and “Optimal Techniques for Multidetector CT and MR of the Liver,” also will be presented.

Highlights attendees can also access select electronic education exhibits from RSNA 2006. Physicians can earn up to 19 *AMA PRA Category 1 Credits™* at RSNA Highlights and three self-assess-



### Registration

	Onsite Registration
RSNA Member	\$650
Non-Member	\$800
RSNA Resident Member	\$150
Non-Member Resident	\$650

ment modules (SAMs) will be offered. More information is available at [RSNA.org/Highlights](http://RSNA.org/Highlights).

*United.com* offers RSNA Highlights attendees a 10 percent discount on select United Airlines, United Express and TED qualifying flights. Use the electronic certificate number 553SB to make your discounted airline reservation online at *United.com*. If you prefer, call United at 1-800-521-4041

or your personal travel agent and mention the United discount ID number 553SB to be eligible for the discounted fares.

The next RSNA Highlights will be held February 18–20, 2008, at the Ritz-Carlton Grande Lakes in Orlando, Fla. More information will be available in future issues of *RSNA News* and at [RSNA.org](http://RSNA.org).

## EXHIBITOR NEWS RSNA 2006

# Exhibitor News

## RSNA 2006 Exhibitor List Still Available

Information about companies showcasing products at RSNA 2006 is remains online at [RSNA.org](http://RSNA.org). Searchable alphabetically and by various product categories, the exhibitor list is an excellent resource to view and compare companies when researching new equipment. To access the list, click on the RSNA 2007 icon at [RSNA.org](http://RSNA.org) and then click 2006 Exhibitor List/Floor Plan.



# Product News

## NEW PRODUCT

### Compact DR System

**S**WISSRAY ([www.swissray.com](http://www.swissray.com)) has introduced the *ddRCompact*, which incorporates a digital high definition silicon solid state detector with micro lens technology to deliver high spatial resolution at low radiation dose. With an active detector area of more than 17" to satisfy all large-field imaging requirements, the *ddRCompact* also performs all digital radiography (DR) applications—including off-detector and off-center—on recumbent, standing and sitting patients. All system movements are fully motorized and remote controlled, with the latest generation eXpert control desk automating every aspect of the radiographic procedure. *ddRCompact* also comes with Swissray's AutoStitching feature, which combines up to four images and allows the viewing of a single image of long bones with the push of a single button.



## NEW PRODUCT

### Mobile CR Unit

Siemens Medical Solutions ([www.usa.siemens.com](http://www.usa.siemens.com)) has launched the MOBILETT XP CR, the first mobile X-ray unit with an integrated computed radiography (CR) reader. With high quality image display for review and archiving right at the patient's bedside,



the system is ideally suited for demanding mobile imaging tasks in intensive care units, neonatal and pediatric departments and surgical wards, according to the company. Clinicians can perform basic image processing

tasks such as brightness, contrast and edge enhancement directly on the system and the choice of different image cassettes enables imaging of various anatomical regions, as well as imaging in pediatric and incubator situations. A reading capacity of 60 cassettes per hour is designed to make the system a centralized single plate CR reader for multiple rooms or ICUs.

## NEW PRODUCT

### Backlit Keyboard

Saitek Industries Ltd. ([www.saitekusa.com](http://www.saitekusa.com)) has unveiled the Eclipse Red, its backlit keyboard targeted to the medical community. With x-ray safe backlighting which shines through laser-etched keys, the Eclipse Red is designed to be used easily in any type of low-light or no-light situation. The keyboard's weighted base and large rubber feet keep it firmly planted to the desk while cushioned, silent keys are intended to reduce fatigue.



## NEW PRODUCT

### Dry Film Imager

The new UP-DF550 dual-tray FilmStation® dry film imager from Sony Electronics ([www.sony.com](http://www.sony.com)) features a second tray to accommodate 8" by 10", 10" by 12" or 11" by 14" prints in addition to its native 14" by 17" film output. The options make the imager ideal for a range of modalities—including CR, DR and fluoroscopy—and a cost-effective means of creating reference prints, according to the company. Reducing dry imaging space requirements with a unique configuration that allows both vertical and horizontal positioning, the imager can also stand upright under a desktop alongside a CPU.



# RSNA.org

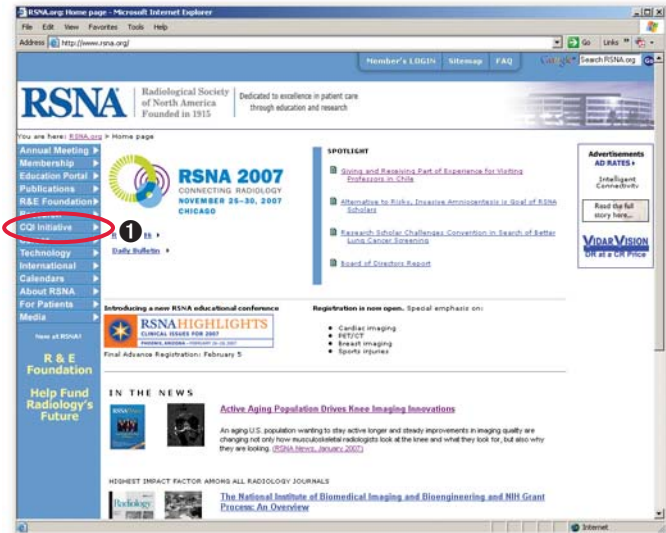
## CQI Initiative

**R**SNA HAS LAUNCHED the Continuous Quality Improvement (CQI) Initiative pages on *RSNA.org*. Overseen by the RSNA CQI Initiative Steering Committee, the pages provide resources to design and implement a quality improvement project, including process and performance measures, as well as guidance on how to monitor and assess implementation. The CQI Initiative pages will be updated frequently with information about upcoming RSNA quality improvement workshops and seminars, as well as courses and activities planned during RSNA 2007.

To access the pages, click CQI Initiative in the left-hand navigation bar of *RSNA.org* ❶. Click on CQI Training and Education ❷ to view a list of organizations, such as the Agency for Healthcare Quality and National Committee for Quality Assurance, offering basic training and education in quality improvement. In the future, this page will also feature information on RSNA-sponsored quality improvement education programs.

Clicking Tools ❸ provides access to templates commonly used in the quality improvement process, while clicking Sources of Evidence-based Medicine and Performance Measures ❹ provides links to such resources as the American Medical Association's Physician Consortium for Quality Improvement and the Center for Evidence-based Medicine.

For free access to limited administrative data from several national organizations—useful for benchmarking and outcomes measurement—click on Data ❺.



## Connections

Your online links to RSNA

**RSNA.org**

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

**Radiology Manuscript Central**  
[RSNA.org/radiologyjnl/submit](http://RSNA.org/radiologyjnl/submit)

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

**RadioGraphics RGXPRESS**  
[RSNA.org/rgxpress](http://RSNA.org/rgxpress)

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

**Education Portal**  
[RSNA.org/education](http://RSNA.org/education)

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

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

**My RSNA Profile & Benefits**  
[RSNA.org/member-services](http://RSNA.org/member-services)

**RSNA Research & Education Foundation**  
Make a Donation  
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**Community of Science**  
[RSNA.org/cos](http://RSNA.org/cos)

**Membership Applications**  
[RSNA.org/mbrapp](http://RSNA.org/mbrapp)

**RSNA Membership Directory**  
[RSNA.org/directory](http://RSNA.org/directory)

**RSNA Highlights: Clinical Issues for 2007**  
[RSNA.org/Highlights](http://RSNA.org/Highlights)

**RSNA 2007**  
[rsna2007.rsna.org](http://rsna2007.rsna.org)

**Abstract Submission for RSNA 2007**  
[RSNA.org/abstracts](http://RSNA.org/abstracts)

**NEW CQI Initiative**  
[RSNA.org/quality](http://RSNA.org/quality)

# Medical Meetings

## March – May 2007

**FEBRUARY 26–28**

**RSNA Highlights: Clinical Issues for 2007, J.W. Marriott Desert Ridge Resort & Spa, Phoenix • [RSNA.org/Highlights](http://RSNA.org/Highlights)**

**MARCH 1–6**

Society of Interventional Radiology (SIR), 32nd Annual Scientific Meeting, Seattle • [www.sirmeeting.org](http://www.sirmeeting.org)

**MARCH 5–9**

Society of Computed Body Tomography and Magnetic Resonance (SCBT-MR), 30th Annual Course, Portofino Bay Hotel at Universal Orlando, Florida • [www.scbtmr.org](http://www.scbtmr.org)

**MARCH 9–13**

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

**MARCH 15–18**

American Institute of Ultrasound in Medicine (AIUM), Annual Convention, Marriott Marquis, New York • [www.aium.org](http://www.aium.org)

**MARCH 25–28**

International Society for Magnetic Resonance in Medicine (ISMRM), Advances in High Field MR Workshop, Asilomar Conference Center, Pacific Grove, Calif.  
• [www.ismrm.org/workshops/HighField/venue.htm](http://www.ismrm.org/workshops/HighField/venue.htm)

**APRIL 5–7**

ISMRM/Turkish Society of Magnetic Resonance (TSMR), International Cardiovascular MR Imaging Symposium, Maritim Pine Beach Resort, Antalya, Turkey  
• [www.ismrm.org/workshops/turkey07.htm](http://www.ismrm.org/workshops/turkey07.htm)

**APRIL 12–15**

São Paulo Society of Radiology and Diagnostic Imaging, 37th Meeting, Transamerica Expo Center, Sao Paulo, Brazil  
• [www.spr.org.br](http://www.spr.org.br)

**APRIL 13–15**

Japan Radiological Society (JRS), 66th Annual Meeting, Pacifico Yokohama, Japan • [www.radiology.or.jp](http://www.radiology.or.jp)

**APRIL 14–17**

Society of Breast Imaging (SBI), 8th Postgraduate Course, Westin Diplomat Resort & Spa, Hollywood, Fla. • [www.sbi-online.org](http://www.sbi-online.org)

**APRIL 15–20**

Society of Gastrointestinal Radiologists (SGR), Abdominal Radiology Course 2007, Hyatt Regency Coconut Point Resort & Spa, Naples, Fla. • [www.sgr.org](http://www.sgr.org)

**APRIL 16–17**

National Council on Radiation Protection & Measurements (NCRP), 43rd Annual Meeting, Crystal City Marriott, Arlington, Va. • [NCRPonline.org](http://NCRPonline.org)

**APRIL 17–21**

Society for Pediatric Radiology (SPR), 50th Annual Meeting and Postgraduate Course and conjoint meeting with the European Society of Pediatric Radiology (ESPR), Intercontinental Hotel, Miami • [www.pedrad.org](http://www.pedrad.org)

**APRIL 25–28**

Association of University Radiologists (AUR), 55th Annual Meeting, Hyatt Regency Denver at Colorado Convention Center  
• [www.aur.org](http://www.aur.org)

**APRIL 29–MAY 1**

American Brachytherapy Society (ABS), 28th Annual Meeting, Sheraton Chicago Hotel & Towers, Chicago  
• [www.americanbrachytherapy.org](http://www.americanbrachytherapy.org)

**MAY 6–11**

American Roentgen Ray Society (ARRS), 107th Annual Meeting, Grande Lakes Orlando, Florida • [www.rrs.org](http://www.rrs.org)

**MAY 14–18**

World Conference on Interventional Oncology (WCIO) and Society of Thermal Medicine (STM), Joint Annual Meeting, Washington Hilton Hotel • [www.wcio2007.com](http://www.wcio2007.com)

**MAY 19–23**

American College of Radiology (ACR), Annual Meeting and Chapter Leadership Conference 2007, Hilton Washington  
• [www.acr.org](http://www.acr.org)

**NOVEMBER 25–30**

**RSNA 2007, 93rd Scientific Assembly and Annual Meeting, McCormick Place, Chicago • [rsna2007.rsna.org](http://rsna2007.rsna.org)**

**FEBRUARY 18–20, 2008**

**RSNA Highlights, Ritz Carlton Grande Lakes Orlando, Florida • [RSNA.org/Highlights](http://RSNA.org/Highlights)**

**RSNA**News

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