

RSNA *News*

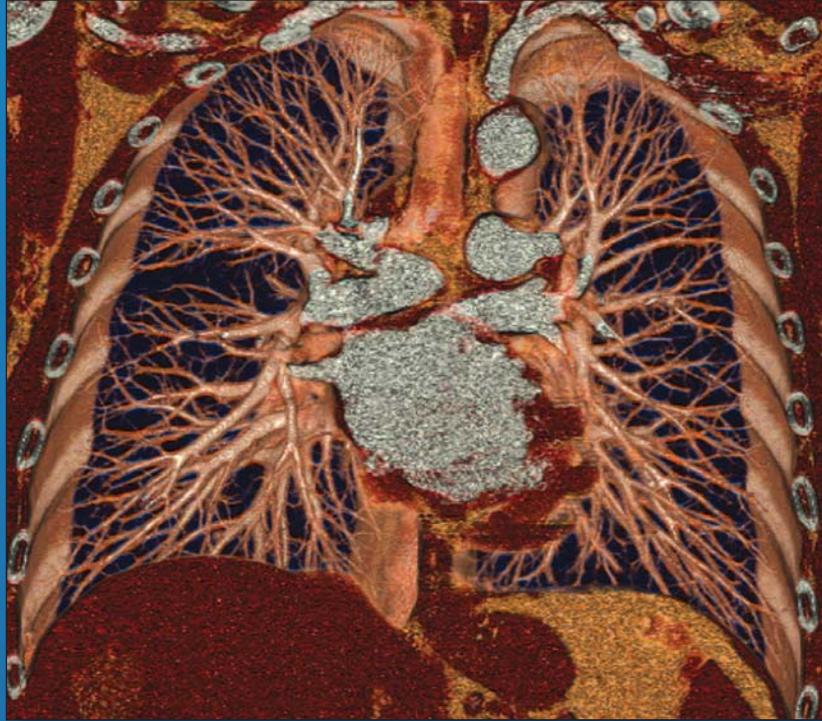


Image courtesy of U. Joseph Schoepf, M.D.

Negative CT Results Can Safely Rule out Pulmonary Embolism

Also Inside:

- RSNA, SNM Urge Interdisciplinary Cooperation to Advance Molecular Imaging
- Understanding Web Site Design is Important for Radiologists
- MIRC Provides Valuable Tool for Clinical Trials
- Members Rely Upon *RSNA News* for Timely Information about Medical Imaging

Register Online for RSNA 2005 Courses
rsna2005.rsna.org

RSNA *News*

1 Announcements

1 People in the News

Feature Articles

3 Negative CT Results Can Safely Rule out Pulmonary Embolism

5 RSNA, SNM Urge Interdisciplinary Cooperation to Advance Molecular Imaging

8 Understanding Web Site Design is Important for Radiologists

10 MIRC Provides Valuable Tool for Clinical Trials

12 Members Rely Upon RSNA News for Timely Information about Medical Imaging

Funding Radiology's Future

19 R&E Foundation Donors

13 Journal Highlights

14 Radiology in Public Focus

16 RSNA: Working for You

18 Program and Grant Announcements

20 Product News

21 Meeting Watch

23 Exhibitor News

25 RSNA.org

EDITOR

Susan D. Wall, M.D.

DEPUTY EDITOR

Bruce L. McClelland, M.D.

CONTRIBUTING EDITOR

Robert E. Campbell, M.D.

MANAGING EDITOR

Natalie Olinger Boden

EXECUTIVE EDITOR

Joseph Taylor

EDITORIAL ADVISORS

Dave Fellers, C.A.E.

Executive Director

Roberta E. Arnold, M.A., M.H.P.E.

Assistant Executive Director

Publications and Communications

EDITORIAL BOARD

Susan D. Wall, M.D.

Chair

Bruce L. McClelland, M.D.

Vice-Chair

Silvia D. Chang, M.D.

Richard T. Hoppe, M.D.

Jonathan B. Kruskal, M.D., Ph.D.

Stephen J. Swensen, M.D.

William T.C. Yuh, M.D., M.S.E.E.

Hedvig Hricak, M.D., Ph.D.

Board Liaison

CONTRIBUTING WRITERS

Bruce Dixon

Amy Jenkins, M.S.C.

Marilyn Idelman Soglin

GRAPHIC DESIGNER

Adam Indyk

WEB DESIGNER

Kathryn McElherne

2005 RSNA BOARD OF DIRECTORS

R. Gilbert Jost, M.D.

Chairman

Theresa C. McLoud, M.D.

Liaison for Education

Gary J. Becker, M.D.

Liaison for Science

Hedvig Hricak, M.D., Ph.D.

Liaison for Publications and Communications

Burton P. Drayer, M.D.

Liaison for Annual Meeting and Technology

George S. Bisset III, M.D.

Liaison-designate for Education

David H. Hussey, M.D.

President

Robert R. Hattery, M.D.

President-elect

RSNA News

July 2005 • Volume 15, Number 7

Published monthly by the Radiological Society of North America, Inc., at 820 Jorie Blvd., Oak Brook, IL 60523-2251. Printed in the USA.

POSTMASTER: Send address correction "changes" to: *RSNA News*, 820 Jorie Blvd., Oak Brook, IL 60523-2251.

Nonmember subscription rate is \$20 per year; \$10 of active members' dues is allocated to a subscription of *RSNA News*.

Contents of *RSNA News* copyrighted ©2005 by the Radiological Society of North America, Inc.

Letters to the Editor

E-mail: rsnanews@rsna.org

Fax: (630) 571-7837

RSNA News

820 Jorie Blvd.

Oak Brook, IL 60523

Subscriptions

Phone: (630) 571-7873

E-mail: subscribe@rsna.org

Reprints and Permissions

Phone: (630) 571-7829

Fax: (630) 590-7724

E-mail: permissions@rsna.org

RSNA Membership:

(877) RSNA-MEM

MRI-Caused Injuries in Patients with Implanted Neurological Stimulators

THE Food and Drug Administration (FDA) has issued a public health notification on MRI-caused injuries to patients with implanted neurological stimulators.

“This is to remind radiology personnel and physicians that serious injury or death can occur when patients

with implanted neurological stimulators undergo MRI procedures, and to recommend preventive actions,” the notice said.

For more information, go to www.fda.gov/cdrh/safety/neurostim.html.

The FDA is also preparing com-

ments concerning the rupturing of vascular access devices from pressurized injection of contrast media during MR and CT studies. RSNA will send an E-News Alert to its members when the information becomes available.



Medicare Expands Ultrasound Treatment for Fractures

The Centers for Medicare & Medicaid Services (CMS) said it plans to expand Medicare coverage of ultrasound stimulation for nonunion fracture. CMS will perform a post-coverage analysis of claims data to examine the net health benefit of ultrasound stimulation for nonunion fractures without prior surgery.

“We are making this bone healing treatment more widely available, while at the same time gaining knowledge that will better inform our coverage decision process,” said CMS

Administrator Mark B. McClellan, M.D., Ph.D. “And we are doing it without any additional burden to beneficiaries or providers.”

The post-coverage analysis will examine the claims data submitted to CMS for the evaluation of the health benefits of ultrasound treatment. By evaluating this data, CMS will develop better evidence and ensure that Medicare beneficiaries are receiving quality healthcare.

For more information, go to www.cms.hhs.gov/media/press/release.asp?Counter=1430.



Medical Imaging Company News:

■ **InStar Systems** of Colorado is now part of **National Medical Development Inc.** InStar provides a range of radiology practice management solutions, including a fully integrated radiology information system (RIS). John Wellbank has been appointed CEO. Most recently, Wellbank served as zone vice-president for Philips Medical Systems.

■ **Novoste Corp.** and **ONI Medical Systems** have entered into an agreement and plan of merger. ONI, a private company based in Wilmington, Mass., designs and manufactures dedicated MR systems. Meanwhile, Atlanta-based Novoste is seeking buyers for its vascular brachytherapy business.

PEOPLE IN THE NEWS

Two Awards for Lentle

RSNA Immediate Past-President **Brian C. Lentle, M.D.**, received the president’s award from the Society of Nuclear Medicine (SNM) during the SNM annual meeting in Toronto last month. This month, Dr. Lentle will be awarded honorary membership in the American Association of Physicists in Medicine (AAPM) during the AAPM annual meeting in Seattle. The AAPM William D. Coolidge Award will be presented to **Gary T. Barnes, Ph.D.**

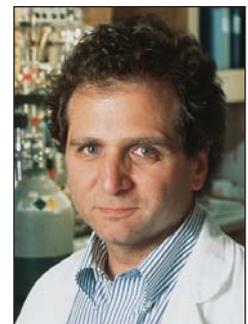


Brian C. Lentle, M.D.

Schwartz New NIEHS Director

Calling him “one of the world’s outstanding researchers in environmental health,” NIH Director Elias A. Zerhouni, M.D., appointed **David A. Schwartz, M.D., M.P.H.**, as the new director of the National Institute of Environmental Health Sciences (NIEHS) and the National Toxicology Program (NTP).

Dr. Schwartz had been the vice-chair of research in the Department of Medicine at Duke University, where he played a principal role in developing three interdisciplinary centers in environmental health sciences, environmental genomics and environmental asthma.



David A. Schwartz, M.D., M.P.H.

© Duke University Photography

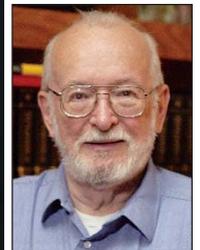
ARRS Awards Gold Medal

THE American Roentgen Ray Society (ARRS) presented its gold medal to three individuals during the ARRS annual meeting in New Orleans in May. They are:

- **William J. Casarella, M.D.**, Emory University
- **William R. Hendee, Ph.D.**, Medical College of Wisconsin
- **Paul C. Lauterbur, Ph.D.**, University of Illinois



(from left) William J. Casarella, M.D., ARRS President Bruce L. McClennan, M.D., and William R. Hendee, Ph.D.



Paul C. Lauterbur, Ph.D.

Odzer Honored at Golden Stethoscope Ceremony

Diagnostic radiologist **Shari-Lynn Umlas Odzer, M.D.**, from Miami, has earned the Editor's Pick Award for Best Bedside Manner in the state of Florida. She was honored during the 16th Annual Florida Medical Business Golden Stethoscope Awards.

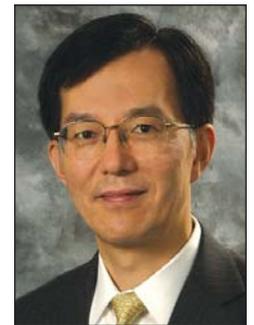
"It is so unusual for a radiologist to be recognized for, of all things, their personal interaction with patients!" she said. "It is important for those of us in the radiology field to remember that there is a patient on the other side of the image."



Shari-Lynn Umlas Odzer, M.D.

Fuji Medical Appoints New President

Makoto Kawaguchi is the new president of FUJI-FILM Medical Systems USA, Inc. He is responsible for all U.S. sales and service for Fuji's medical imaging, life science and non-destructive testing products, as well as for all global marketing and research and development efforts.



Makoto Kawaguchi

Philips Appoints New Executive

Brent Shafer is the new executive vice-president and CEO of the sales and service region for Philips Medical Systems division in North America.



Most recently, Shafer was vice-president and general manager of the Patient Environment Division at HILL-ROM, Inc., a global company based in Batesville, Ind. He also worked at Johnson & Johnson, Hewlett-Packard Medical Products Group and GE Medical Systems.

Two New Kodak Vice-Presidents

The board of directors for Eastman Kodak Company has elected two new vice-presidents. **Michael W. Jackman** was the general manager of Kodak's Healthcare Information Systems and **Michael L. Marsh** was the general manager of Digital Output in Kodak's Health Group.



Negative CT Results Can Safely Rule out Pulmonary Embolism

A NEGATIVE CT scan is as good as conventional pulmonary angiography to rule out clinically significant pulmonary embolism (PE), according to a study in the April 27 issue of *The Journal of the American Medical Association (JAMA)*.

“The negative predictive value of spiral CT for PE is almost 100 percent,” according to senior author U. Joseph Schoepf, M.D., from the Medical University of South Carolina in Charleston. “What this means is that the patient does not need further imaging tests, does not need anticoagulant therapy and does not need to undergo invasive procedures for PE.”

Dr. Schoepf and researchers from Brigham and Women’s Hospital in Boston conducted a meta-analysis on data from 3,500 patients with suspected PE who had negative CT results.

“Our results suggest that previous concerns regarding the accuracy of CT for ruling out PE should be effectively overcome and firmly establish CT as the contemporary reference standard for imaging PE,” he said.

Previous perceptions held that only positive CT scans were conclusive. Some physicians believed that CT was not sensitive enough for isolated peripheral emboli, and many felt a negative single-slice spiral CT could not be accepted to rule out PE. Consequently, many patients had additional imaging tests that were considered more sensitive or more accurate.

“This is good news for physicians and patients because additional tests to rule out PE expose patients to unnecessary radiation, can increase complication risk and increase healthcare costs,” he concluded. “What needs to happen



A negative CT scan of the pulmonary arteries rules out pulmonary embolism in this patient.

Image courtesy of U. Joseph Schoepf, M.D.

now is that rather than continue to test the accuracy of CT, we should focus on identifying the patient populations that benefit the most from CT. We are at the point where the test is so good that there is a real danger of overutilization. Future research should focus on curbing overutilization and assure that the most appropriate patient populations get the scan.”

Preparing Physicians for Sole CT Evaluation for PE

Dr. Schoepf said the *JAMA* paper has the potential to change practice patterns because physicians can now trust CT scans to reliably rule out PE.

“We published in *JAMA* to educate the general medical community,” he

explained. “Radiologists generally know the capabilities of CT and consider it the gold standard. The accuracy of CT and its negative predictive value was never really in doubt among radiologists; however, firm data were lacking to sufficiently convince the general medical community. With this recent data, I believe we have such confirmation.”

PE researcher Lacey Washington, M.D., from the Medical College of Wisconsin in Milwaukee, said physicians are ready to accept a negative CT scan as excluding PE. “In our center they are also willing to accept a suboptimal or low-quality negative result. Most patients who have a result

Continued on next page

Continued from previous page

like that do not go on for additional testing,” she said.

“Patients can also now implicitly trust the test results,” said Dr. Schoepf. “I think patient care will be improved overall with the firm establishment of CT as the standard of reference.”

JAMA study coauthor and biostatistician Kelly H. Zou, Ph.D., from Harvard Medical School and Brigham and Women’s Hospital, points out the importance of evidence-based medicine (EBM) as a useful tool for evaluating the diagnostic accuracy of the state-of-the-art imaging modalities. “In this work, we carefully followed the guidelines and principles of EBM, as applied to radiology, and conducted a meta-analysis of CT for PE. Such an approach may set an example for evaluating many other imaging applications.”

Exceptions to the Rule

While Dr. Washington is encouraged by the study results, she said angiography should not be eliminated entirely in cases of suspected PE. “There are cases in which CT is not conclusive and repeat CTs are performed. Sometimes angiography is preferable in the situation where you feel you cannot exclude PE based on CT,” she said. “There is still a role for both scintigraphy and pulmonary angiography in patient evaluation. Young patients who have a chest radiograph without findings can be examined with scintigraphy. This technique delivers a small radiation dose to the breasts, which is a concern in young women.”

While CT scanners are not created equal, Dr. Washington said single-slice CT is adequate to diagnose or rule out PE but added that multi-slice detectors are better.

■ To view the abstract of the *JAMA* study, “Clinical Validity of a Negative Computed Tomography Scan in Patients With Suspected Pulmonary Embolism” go to jama.ama-assn.org/cgi/content/abstract/293/16/2012.

■ To view the *NEJM* study, “Multidetector-Row Computed Tomography in Suspected Pulmonary Embolism,” go to content.nejm.org/cgi/content/abstract/352/17/1760.

PE Courses at RSNA 2005

Two refresher courses on pulmonary embolism are scheduled for RSNA 2005. To register, go to rsna2005.rsna.org and click on the Advance Registration, Housing and Course Enrollment brochure.



RSNA2005
Connecting for Lifelong Learning

■ RC211

Role of Lung Scanning and CT Angiography in the Diagnosis of Pulmonary Embolism in the PIOPED II Era

■ RC601

Diagnosis of Pulmonary Embolism: Techniques and Clinical Applications including PIOPED II

Trend Toward Using CT to Diagnose or Rule Out PE

At the recent annual meeting of the American Roentgen Ray Society, Jay H. Donohoo, M.D., from Rhode Island Hospital in Providence, presented research showing that multi-detector CT (MDCT) pulmonary angiography is replacing ventilation-perfusion lung scanning to diagnose suspected pulmonary embolism at his hospital.

Dr. Donohoo and his colleagues reviewed the results of all ventilation-perfusion scans and MDCT pulmonary angiograms during a 30-month period at Rhode Island Hospital. They found that the average number of ventilation-perfusion scans dropped from 5.7 per month to 3.6 per month, and that the average number of MDCT pulmonary angiograms increased from 21.9 per month to 42.5 per month.

“The exact degree of the changes in our study is only representative of our institution; however, the shift

toward diagnosing PE by CT is a national trend,” he said.

“The current generation of MDCT scanners can quickly image the pulmonary vasculature with high-resolu-

Our results suggest that previous concerns regarding the accuracy of CT for ruling out PE should be effectively overcome and firmly establish CT as the contemporary reference standard for imaging PE.

U. Joseph Schoepf, M.D.

tion, enabling small pulmonary emboli to be diagnosed more frequently and with greater confidence. In addition, other significant diagnoses such as aortic dissection, pneumothorax, rib fractures or cancer are seen with CT in up to 30 percent of patients with suspected PE. These other findings can’t be made with a ventilation-perfusion scan.”

In the April 28, 2005, edition of the *New England Journal of Medicine*, Arnaud Perrier, M.D., from the Geneva Faculty of Medicine and Geneva University Hospital in Switzerland, reported that he and colleagues had a similar experience with MDCT. □

RSNA, SNM Urge Interdisciplinary Cooperation to Advance Molecular Imaging

NUCLEAR MEDICINE pioneer Henry N. Wagner Jr., M.D., once said, “It is wrong to reach a turning point and not turn.”

Dr. Wagner’s remark can be generalized to the evolution of all imaging sciences as they face the challenges of molecular biology, nanotechnology, genomics and proteomics, according to the organizers of a two-day Molecular Imaging Summit held in April in Oak Brook, Ill.

The workshop, organized by RSNA and SNM, brought together physicians, scientists and staff from 16 societies to begin long-term collaboration in such areas as molecular imaging education, research and intersociety relations.

“Traditionally, the radiologic sciences have viewed imaging from an anatomical or functional perspective. Molecular imaging and the hybrid technologies, such as PET/CT and fMRI, are changing this, so it is a distinction that will be less relevant to imaging in the future,” explained summit co-chair Brian C. Lentle, M.D., from Vancouver, B.C. “What we’re going to do is embark on a long process of cultural change—a change that may not happen, but if it doesn’t, medicine will be the poorer.”

Dr. Lentle, immediate past-president of RSNA, said it’s important to focus on process and not on technology. “Most of our alignments—the Academy of Molecular Imaging and the Society



Leaders from a dozen societies made presentations during the Molecular Imaging Summit, including (clockwise) Tom R. Miller, M.D., Ph.D., from the American Board of Nuclear Medicine, Brian C. Lentle, M.D., from RSNA, and Mathew L. Thakur, Ph.D., from SNM.



of Molecular Imaging are perhaps the exceptions—are focused on individual technologies and not on process,” he explained. “We divide ourselves into those who use machines that image

What we’re going to do is embark on a long process of cultural change—a change that may not happen, but if it doesn’t, medicine will be the poorer.

Brian C. Lentle, M.D.

radionuclides and those who image x-rays. By process, I mean that you have to focus on molecular imaging as a concept, which implies that you then focus on diseases. In order to make diagnoses, you cannot be committed to one technology or the other. You have to be committed to the process of diagnosis.”

What is the Definition of Molecular Imaging?

A major goal of the summit was to define molecular imaging. As a starting

point, the group used a proto-definition offered by co-chair and SNM President Mathew L. Thakur, Ph.D., “Molecular imaging is an imaging study that is based upon and facilitated by molecular and cellular events in a biological system.”

In an afternoon breakout session, several hours of discussion included topics such as gene expression, enzymes, cell receptors and subcellular processes. Questions were posed about whether the use of MR spectroscopy to measure a choline peak records a molecular or biological event; how a molecular event can be defined in the context of molecular imaging; whether thallium uptake in the heart is molecular imaging; and how to classify perfusion imaging.

What emerged was a definition that participants felt included imaging tools

Continued on next page



On day two of the summit, rapporteurs presented the outcome of each of three breakout sessions—Education in Molecular Imaging, Definition of Molecular Imaging and Framework for Organizational Communication and Collaboration. John M. Boone, Ph.D. (right), from the American Association of Physicists in Medicine, reported on the definition of molecular imaging.

Continued from previous page

such as PET, FDG-PET, SPECT, PET/CT, PET/MRI, ultrasound and optical imaging:

Molecular imaging techniques directly or indirectly monitor and record the spatio-temporal distribution of molecular or cellular processes for biochemical, biological, diagnostic or therapeutic applications.

Some comic relief was provided by Dr. Lentle, who remarked while looking at the definition on a screen, “I was afraid it might resemble the European guidelines for the importation of eggs or something, but this is a very pithy and concise definition.”

Educational Goals

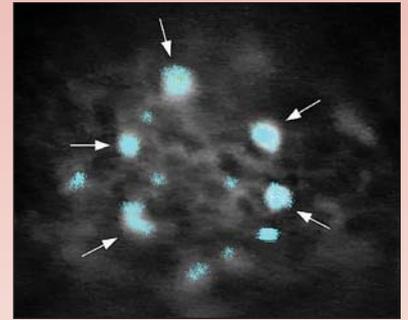
A second breakout group tackled the issue of molecular imaging education. In the absence of a curriculum, the group agreed that no single program would fit the range of scientists and clinicians involved in molecular imaging.

“Participants in the courses could

be M.D.s, Ph.D.s, M.D./Ph.D.s, graduate students and undergrads. At the Ph.D. level, there are specialists in biology, pharmacology, physics, engineering, chemistry, mathematics and imaging,” explained session spokesman Chrit T. Moonen, Ph.D., of the International Society for Magnetic Resonance in Medicine. “What we concluded was that the lack of a molecular imaging curriculum does not hamper the development of the basic sciences, but that the diversity of the field makes the design of a common curriculum nearly impossible.”

Dr. Thakur added: “There is no molecular imaging textbook per se, and we’re a long way from having a proper certification course, particularly for radiology and nuclear medicine. My thinking is that those who want to come and take basic training without certification can do so.”

It also was recommended that one-year fellowships in both clinical and basic science or preclinical work would



Sample of Molecular Imaging
Optical image (x 250 magnification) of an exteriorized metastatic colon cancer-bearing live mouse liver demonstrating the presence of tumor-recruited macrophages (arrows) into the center of this tumor. Such imaging is used to characterize populations and study the role of macrophages in inducing and supporting the onset of angiogenesis in developing colorectal cancer metastases.

Image courtesy of Jonathan B. Kruskal, M.D., Ph.D.

be a desirable goal. “We also discussed the need for attracting excellent scientists for promoting the power of molecular imaging as a translational research tool,” said Dr. Moonen.

Drs. Lentle and Thakur added that, in the longer term, the basic science components of education in the radiologic sciences may need to be diversified beyond medical physics, radiopharmacology and radiology. “Above all, the present communication chasm between basic scientists and clinicians must be overcome for molecular imaging to realize its potential to reinvent radiological science,” they said.

The group also agreed that it is too soon to consider board certification for molecular imaging.

Communication and Collaboration

Creation of a framework for organiza-

Participating Societies in the Molecular Imaging Summit

- Academy of Molecular Imaging
- American Association of Physicists in Medicine
- American Board of Nuclear Medicine
- American Board of Radiology
- American College of Radiology
- American Roentgen Ray Society
- American Society of Nuclear Cardiology
- Canadian Association of Radiologists
- Canadian Association of Nuclear Medicine
- European Congress of Radiology
- Federacion Mexicana de Radiología e Imagen
- International Society for Magnetic Resonance in Medicine
- Radiological Society of North America
- Society for Molecular Imaging
- Society of Nuclear Medicine
- Society of Radiopharmaceutical Sciences

tional communication and collaboration was assigned to a third breakout group, which decided that a good starting point would be a multisociety effort to consider key components of a non-certified fellowship in molecular imaging as an antecedent to residency training and accrediting programs.

“We felt it would be easier to build a consensus on a non-certified fellowship and a core curriculum than it would be to get consensus from the boards and implement that in residency programs at this point,” said group

spokesman Peter S. Conti, M.D., Ph.D., of SNM. “We also felt that it’s essential that we cosponsor educational programs at each others’ organizational and annual meetings so that we can have an exchange between the organizations whereby expertise from all societies would complement each other in developing these types of curricula.”

Drs. Lentle and Thakur recommended that each organization appoint a representative volunteer and staff person to a conjoint committee on molecular imaging charged with “prioritizing,

promoting and advancing this molecular imaging agenda.” In addition, representatives of the societies planned to meet face-to-face once a year.

Dr. Lentle concluded that the summit was a good beginning in what promises to be a “long haul” effort that will take years to produce real change. He and Dr. Thakur will write a white paper to which all summit participants will be allowed to provide input prior to publication. □

Molecular Imaging at RSNA 2005

SEVERAL REFRESHER COURSES at RSNA 2005 will include molecular imaging topics. To register, go to rsna2005.rsna.org and click on the Advance Registration, Housing and Course Enrollment brochure.



RSNA2005

Connecting for Lifelong Learning

■ RC117

Molecular Biology for Radiologists

- A. Molecular Imaging Introduction and Overview
- B. Introduction to Molecular Biology: Overview for Imagers
- C. Methods in Molecular Biology

■ RC122

Molecular and Advanced Imaging in Oncology Minicourse: Molecular Imaging and Scales

- A. Molecular Imaging in Basic Science and Oncology
- B. Advanced Imaging Methods and Systems Across Multiple Scales

■ RC217

Target Identification and Bioinformatics

- A. Proteins for Imaging: Receptors, Enzymes, and Transporters
- B. Informatics for Imaging: General Principles
- C. Informatics for Imaging: Genomics and Proteomics

■ RC222

Molecular and Advanced Imaging in Oncology Minicourse: MR Spectroscopic Imaging and Radiation Treatment

- A. MR Imaging in Oncology: Technical Overview
- B. MR Spectroscopic Imaging in Radiation Treatment: Prostate
- C. MR Spectroscopic Imaging in Radiation Treatment: Brain

■ RC317

Probe Design II

- A. Sensitivity and Specificity Concerns
- B. Development of Radio-nuclide Imaging Probes
- C. MR and Optical Probes for Molecular Imaging

■ RC322

Molecular and Advanced Imaging in Oncology Minicourse: PET and SPECT Imaging in Oncology

- A. Physics of SPECT, PET, and PET/CT Devices
- B. Hypoxia Radiation Treatment: Head and Neck
- C. Advanced PET Imaging in Oncology

■ RC418

Molecular Imaging in Oncology

- A. Background, Optical Imaging, and Magnetic Resonance Imaging
- B. Nuclear Medicine Imaging: Clinical Applications

■ RC422

Molecular and Advanced Imaging in Oncology Minicourse: PET and SPECT Imaging for Radiation Treatment

- A. PET and SPECT Imaging in Radiation Treatment: Lung
- B. PET Imaging in Radiation Treatment: Cervix
- C. Summary: The Oncologic Target

■ RC517

Molecular-Genetic Imaging

- A. Reporter Systems in Molecular Imaging: A Comparative Analysis
- B. Imaging of Cellular Networks and Protein-Protein Interaction
- C. Molecular-Genetic Imaging in Oncology

■ RC617

In Vivo Cellular Imaging

- A. General Considerations: Choice of Method
- B. Cardiovascular Applications of Cellular Imaging
- C. Neurologic Applications of Cellular Imaging

■ RC717

Clinical Translation

- A. Current and Near-term Applications of Molecular Imaging Research
- B. Training for Molecular Imaging
- C. Involving Community Imaging Specialists

■ RC817

Opportunities from Industry and Government

- A. Academic-Industrial Collaborations
- B. Funding Opportunities: Imaging in the NIH Roadmap
- C. Obtaining Approval for Clinical Use of Molecular Imaging Probes

Understanding Web Design is Important for Radiologists

RADIOLOGISTS can quickly provide the formal names for CT and MR, but not many of them can do the same for HTML or ISP.

Three Vancouver radiologists are encouraging all radiologists—especially private practitioners—to learn more about HTML (hypertext markup language), Internet service providers (ISPs) and Web design to help enhance their medical practice.

Drs. Anthony G. Ryan, Luck J. Louis, and William C. Yee are the authors of “HTML and Web Site Design for the Radiologist: A Primer,” which appears in the July-August issue of *RadioGraphics*.

“A Web site has enormous potential as a medium for the radiologist to store, present and share information,” Dr. Ryan said. “With a modest amount of tutoring and effort, designing a site can be as painless as preparing a Microsoft PowerPoint® presentation.”

By learning the basics of HTML, the authors said almost anyone can create an effective Web page displaying pictures, words and multimedia files.

Creating a Web Site

The article lists five steps to creating a Web page:

- Creating a basic template with formatted text
- Adding color
- Importing images and multimedia files
- Creating hyperlinks
- Uploading the page to the Internet

The article also provides information on using proprietary software to help create a Web site.

Dr. Ryan said there are a number of benefits to designing your own site. “Constructing a Web site allows you to publish information about your medical practice that patients, potential patients and colleagues can view,” he said. “You can also produce Web-based tutorials, store a teaching library and gather information from other practitioners.”

Dr. Yee said the Internet provides a valuable medium for educational and research purposes. “Radiologists need a basic understanding of how a Web site works for better communication, such as sharing knowledge on an interesting case,” he said. “You don’t need to hire a Web designer for this. It’s important for you to design your own Web site so you can update it with new cases. A Web designer will have to be paid for each update.”

Dr. Ryan agreed, with one caveat. “A group or practice will probably want to hire a designer to create a Web site with a professional sheen,” he said.

With a modest amount of tutoring and effort, designing a site can be as painless as preparing a Microsoft PowerPoint® presentation.

Anthony G. Ryan, M.B.B.Ch., M.Sc.

“However, with working knowledge of HTML, you are less likely to be duped into paying exorbitant amounts of money for something you know is easy to produce.

Also, being more informed about the process allows you to know what aspects of a site absolutely need a professional.”

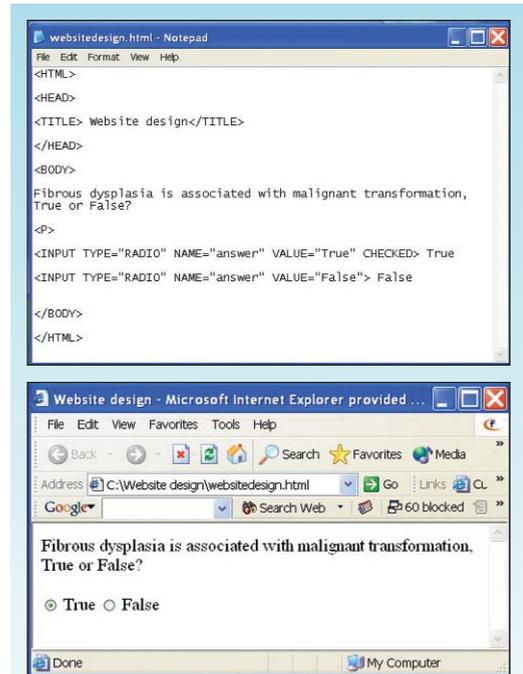
Dr. Yee estimated it would take 15 – 30 hours to create your Web site,

depending upon the complexity of it. More time will be needed for updates and answering e-mail questions sent via the Web. “If the goal of your Web site is to disseminate information, the content of your site should change to keep returning readers interested,” he said.

If you have a PowerPoint presentation and/or a combination of text and images, Dr. Ryan said you should expect to spend about an hour or so fine tuning the text and images to add to your Web site.

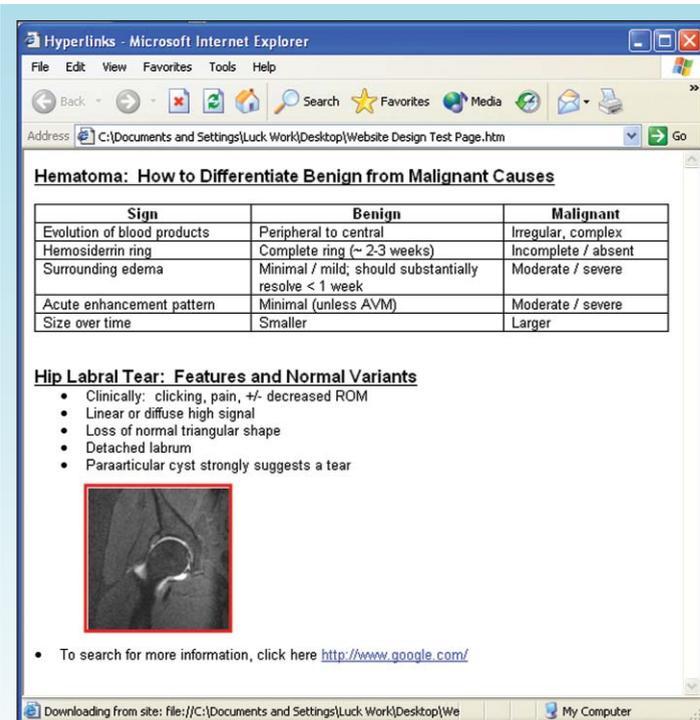
Web Site as a Marketing Tool

Creating your own Web site allows a practice to market its services. Dr. Ryan said it is important for private practitioners to let their referral base and patients know what they can do. “This



(top) Screen from Notepad shows the HTML code. (bottom) Screen from Internet Explorer shows the resultant display.

Screen shots courtesy of Anthony G. Ryan, M.B.B.Ch., M.Sc.



Screen from Internet Explorer shows a document in Word that is saved as an HTML file. The complex formatting of the document, which includes a table, an image and a hyperlink, is all intact.

is especially true for interventional radiologists setting up a clinical practice. They need to let the public know who they are, where they are, and what they do. A Web site is the ideal way to do this," he said.

Dr. Ryan said the average person with Internet access searches online for the answer to a medical question before calling a doctor. "When they go to the Web and your site is referenced by the major search engines, it will show up in the search results," he said. "Our article explains how to get recognized by these search engines."

Another benefit of a Web site is that it gives other physicians exposure to your skills and vice versa. Dr. Yee cited the example of a patient with a medical problem you've never seen before. Through the Web, he said, you could find a radiologist with special interests in that specific area. Conversely, you can advertise your expertise on your Web site.

Site Security and Patient Privacy

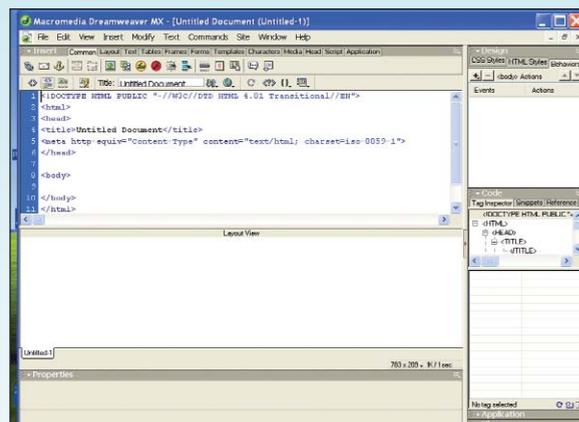
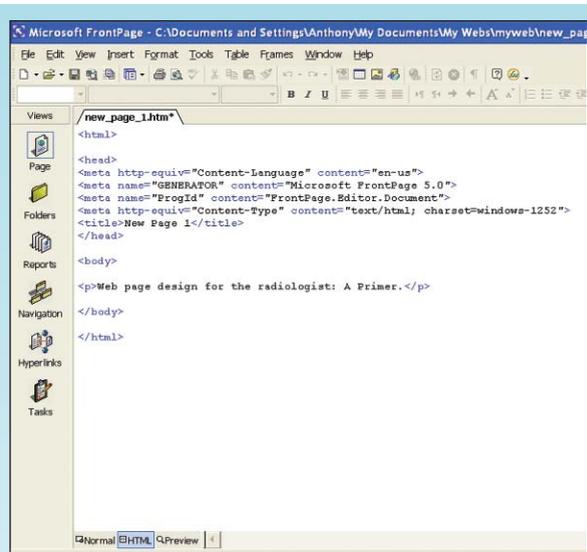
Web site hosts need to consider security

to ward off hackers. Dr. Yee said most ISPs supply hardware and software security. He said you should never place financial or confidential material on your site.

Dr. Ryan said hackers are always out there, but using a server with secure facilities—sites that begin with https://—will provide as much protection as possible.

As for HIPAA, both Drs. Yee and Ryan said that if you are using medical images to illustrate a condition, procedure or interesting case, it is vital that all identifying material be removed to protect the patient's privacy.

"If a patient is identifiable, the publishing radiologist will be held responsible," said Dr. Ryan. "Prior to publication, all images should be vetted to ensure that no such information exists. Final images to be published should be kept in a separate folder from the originals to avoid inadvertent publication of unedited images."



(top) Screen from FrontPage shows its striking similarity to the other programs in the Microsoft Office family. Text typed in the opening screen may be viewed in HTML format or as it will appear in Internet Explorer. (bottom) Screen from Macromedia's Dreamweaver. Although some elements are similar to those of Office products, the Dreamweaver work sheet remains initially daunting, particularly for the beginner.

Embrace the Technology

Even if you're not an avid computer user, Dr. Ryan said the process of putting together a Web page can be enjoyable. "We're all used to admiring slick material on the Web and it's pleasantly surprising to see how one can produce a similar, professional-looking site with a minimum of training," he said. □

■ RSNA members and *RadioGraphics* subscribers can view the full-text article of the article at RSNA.org/radiographics/.

MIRC Provides Valuable Tool for Clinical Trials

RSNA's Medical Imaging Resource Center (MIRC) is playing an important part in clinical trials in at least two-dozen sites across the United States.

MIRC (rsna.org/mirc) was launched in 2002 to enable the medical imaging community to share images and information for education, research and clinical practice.

MIRC for Clinical Trials

"The great thing about MIRC is that it can acquire images from any modality or PACS at multiple clinical sites, remove all of the patient identification information, transfer the images via the Internet to the principal investigator site, and then organize the images into studies there," explained Steve Drew, RSNA assistant executive director for informatics and the scientific assembly.

The National Cancer Institute (NCI), which had an interest in MIRC from the beginning, started using MIRC last year for its Reference Image Database to Evaluate Response (RIDER) to Drug Therapy in Lung Cancer program.

"The MIRC software is proving invaluable to our development and population of an image archive and retrieval system at NCI," said John Freymann, an informatics manager for NCI. "MIRC provides a small footprint application that installs easily at data source sites."

Seven institutions are participating

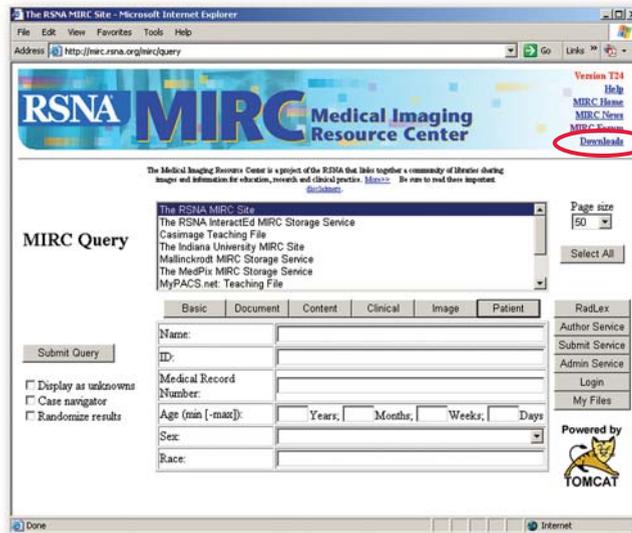
MIRC... can acquire images from any modality or PACS at multiple clinical sites, remove all of the patient identification information, transfer the images via the Internet to the principal investigator site, and then organize the images into studies there.

Steve Drew

in the RIDER program, including Cornell University, M.D. Anderson Cancer Center, Memorial Sloan-Kettering, University of Chicago, University of Iowa, University of Michigan, and University of California, Los Angeles.

"At many of the institutions, images are used for multiple purposes. We had to find a way to allow the images to be anonymized in certain circumstances, while documenting when unanonymized images are viewed, and still make each dataset fully searchable" said John Perry, MIRC project manager.

"Even though MIRC strips out the patient identification from the images, the transmission is encrypted so that, even if someone were to intercept them, they wouldn't be able to decode it."



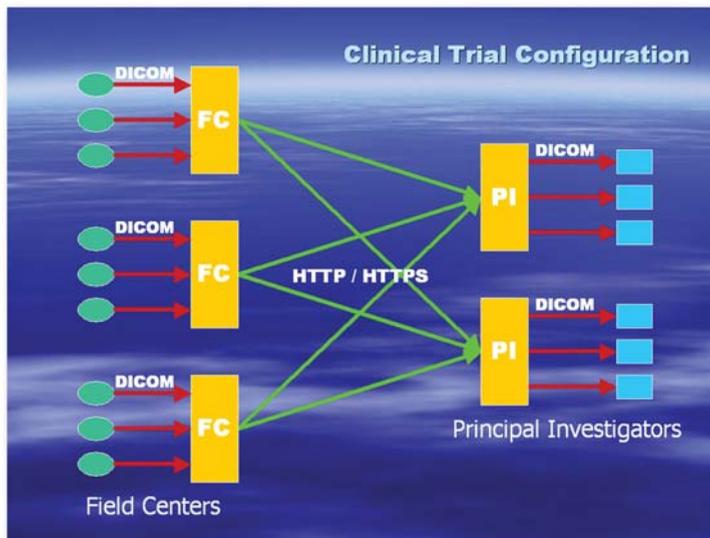
To view and download the software needed to use MIRC for clinical trials, go to mirc.rsna.org and click on Downloads in the upper right-hand corner.

One of the first clinical sites to use MIRC was the University of Pennsylvania (UPenn) as part of the Action to Control Cardiovascular Risk in Diabetes (ACCORD) trial. They liked the performance of MIRC so much that they and 14 clinical sites participating in the Women's Health Initiative Memory Study (WHIMS) are using MIRC.

Public Health Sciences at the Wake Forest University School of Medicine (WFUSM) is the coordinating center for WHIMS. Computer Applications Analyst Josh Tan said MIRC is an asset.

"MIRC provides a set of wonderful tools that makes image transfer easy and secure. The ability to share and exchange images and other files in an encrypted fashion makes MIRC an invaluable resource," he explained. "We are receiving images from UPenn and the WHIMS study. We're also sending images to the University of Washington for analysis in the carotid atherosclerosis MRI progression (CAMP) study." WFUSM is the principal investigator site for CAMP.

The MIRC clinical trials configuration connects the study's field centers to the principal investigator site(s) via the Internet.



“We’ll soon use MIRC to receive images from the Coronary Artery Risk Development in Young Adults—Year 20 study and from the Women’s Health Initiative,” said Tan, adding that MIRC is also helping WFUSM receive images from outside the United States. “We are in the process of setting up a connection to receive MR images, using the MIRC software, from South Africa for our radiologists to review.”

Tan said he would definitely recommend using MIRC for clinical application. “Our technologists like to use simple and stable applications, such as MIRC,” he explained. “When we send images to the University of Washington, the technologists love to use the MIRC software because MIRC runs behind the scenes and works well. There are many tools and features that have to be learned, but once the MIRC tools have been mastered, the different options that become available are very powerful.”

To make mastering MIRC software easier, several courses will also be available at RSNA 2005.

No Fees for MIRC

“MIRC is free to the user and it is also open source, which means users can modify the code to meet their specific needs,” said Drew.

Freymann added that MIRC’s easy integration with internal DICOM PACS

and its secure transport system makes it even more attractive to the user, “The fact that it is open source and extensively documented makes integrating the central MIRC server with NCI’s caIMAGE applications a more straightforward exercise.”

Another advantage of MIRC is that it will run on virtually any computer. “Most sites have an old PC, Mac or Linux box lying around that will handle the communications adequately, reducing the cost of becoming a clinical trial participant,” said Perry.

MIRC for Storage and to Create Teaching Files

“In addition to using MIRC for clinical trials, a handful of sites inside and outside of the United States are using MIRC to organize and store their images,” said Drew. “The images are indexed to make them easily searchable. A site can also choose to have the images available to everyone through a master index that RSNA maintains.”

The sites using MIRC for storage have also created teaching files with MIRC software. RSNA is now creating its own teaching files with an upgraded MIRC authoring tool that will be demonstrated at RSNA 2005.

“MIRC provides the flexibility to customize a teaching file to have its own look or feel,” said Drew. “Once learned, it’s a straightforward and flexi-

MIRC Courses at RSNA 2005

Several MIRC courses are planned for RSNA 2005.

Refresher Course

■ RC630

RSNA Medical Imaging Resource Center (MIRC) and the Teaching File Integration Profile

A. RSNA MIRC Software

B. Implementation Example: University of California, San Francisco

C. Implementation Example: Indiana University

D. Using MIRC

infoRAD Courses

These courses are repeated several times throughout the week.

■ MIRC: How to Set Up a System for Teaching Files and Conferences—Hands-on Workshop

■ MIRC: How to Author Teaching Files Using MIRC—Hands-on Workshop

■ MIRC Case Studies: Using MIRC Software for Education and Research

For more information on these or any other courses at RSNA 2005, go to RSNA.org/register and click on the Advance Registration, Housing and Course Enrollment brochure.

ble tool to use. Residents, who are asked to create several teaching files each year, will find the assignment easy with MIRC.”

The authoring tool is integral to MIRC software and can be installed and used on a personal computer or installed on a server and accessed via a network. Upgrades to the server are immediately available to all users. “One of the most important areas of evolution is in the authoring tool, which is accessed through a standard Web browser,” said Perry. “Many users and engineers in the MIRC community are contributing to its evolution through a lively RSNA forum discussion and an open source development project.”

More information on the MIRC authoring tool and RSNA teaching file will be available in future editions of *RSNA News*. □

RSNA2005
Connecting for Lifelong Learning



Members Rely on *RSNA News* for Timely Information about Medical Imaging

FEATURE ARTICLES about new technology and research, and highlights from the RSNA journals are favorites among *RSNA News* readers, according to a new survey.

An e-mail survey of 2,101 RSNA members, with a response rate of 28.9 percent (549 members), found that a majority (84.3 percent) of respondents read the magazine. Every page or most every page was read by 37.1 percent, which is significantly higher than the 17.3 percent who answered the same question in a 2001 survey.

"*RSNA News* is intended to be an interesting, timely and thought-provoking publication presented in an easy-to-read format,"

said *RSNA News* Editor Susan D. Wall, M.D. "I'm gratified that our members and subscribers find time in their very busy schedules to read it each month."

Among those who read *RSNA News*, 59.1 percent always or almost always read the feature articles. The Journal Highlights column, which provides a brief description of an article in the current issues of *Radiology* and *RadioGraphics*, had a 56.2 percent regular readership.

The types of articles most popular among readers are new technology, new research and socioeconomic issues, which are read always or almost always by 62.2 percent, 54.6 percent and 43.8 percent of readers respectively.

"What this tells us is that our readers depend on *RSNA News* to keep them informed on topics that interest them. They want news in radiology,

they want to know what's in the journals, and they want details about the first-class educational opportunities available at the RSNA annual meeting," said *RSNA News* Deputy Editor Bruce L. McClennan, M.D. "We will continue to work hard to meet our readers' needs."

Quality Improvements

"The 2005 survey is helpful because the responses indicate that the changes made in *RSNA News* since the 2001 survey have enhanced its appeal for our members," said Dr. Wall.

A majority of readers gave *RSNA News* a rating of excellent or very good for appearance (67.9 percent), readability (67.3 percent), quality of writing (55.3 percent) and quality of content (51.7 percent)—significantly higher than the magazine rated in these categories in 2001.

"Design and readability are very important," said Dr. McClennan. "I am very happy that *RSNA News* is a valued publication."

Among the other findings of the *RSNA News* survey, 52.1 percent of readers prefer the print edition while 27.1 percent prefer the online edition and 19.1 percent like both versions.

RSNA News is online at rsnanews.org. The current issue plus 12 previous months are available in full text. Back issues are also available in portable document file (PDF) format from June 2002 to the present.

Reader comments, suggestions and letters to the editor are always welcome at rsnanews@rsna.org. □

How thoroughly do you read *RSNA News*?

	2005	2001
Every page	5.7%	1.4%
Most pages	31.4%	15.9%
Selected pages	39.6%	45.6%
Browse only	23.3%	36.4%

Rating Selected Characteristics of *RSNA News* as Excellent or Very Good

	2005	2001
Appearance	67.9%	36.3%
Readability	67.3%	34.6%
Quality of Writing	55.3%	35.9%
Quality of Content	51.7%	32.3%
Variety of Articles	48.4%	28.1%

Columns Always/Almost Always Read

	% RESPONDENTS
Feature articles	59.1%
Journal Highlights	56.2%
Announcements	44.8%
Radiology in Public Focus	43.0%
Annual Meeting Watch	41.2%
People in the News	37.0%
RSNA.org	33.0%
RSNA Working for You	29.0%
Product News	24.6%
Program and Grant Announcements	19.0%
Exhibitor News	16.4%

Article Types Always/Almost Always Read

	% RESPONDENTS
New technology in radiology	62.2%
New research in radiology	54.6%
Socioeconomic issues affecting radiology	43.8%
Government issues affecting radiology	36.6%
Member benefits	30.4%
Practice management	30.1%
Resident issues	26.4%

Journal Highlights

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

Idiopathic Interstitial Pneumonias: CT Features

DIAGNOSING idiopathic interstitial pneumonia (IIP) requires a multidisciplinary effort involving the radiologist, pathologist and clinician. There have been several previous classifications of IIPs but none has clearly delineated the complementary roles of the physicians.

In a review article in the July issue of *Radiology* (RSNA.org/radiologyjnl), David A. Lynch, M.D., from the University of Colorado Health Sciences Center in

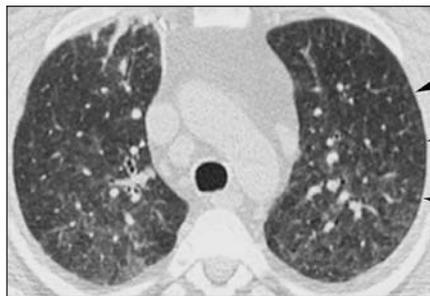
Denver, and colleagues illustrate aspects of the IIP classification that are of importance to the radiologist. Particularly, they delineate the typical radiologic features of these entities, with radiologic-pathologic correlation and review the radiologic differential diagnoses.

The article also includes "Essentials" or highlighted points to help busy readers recognize important information at a glance.

Radiology



Cellular NSIP in a 50-year-old woman with shortness of breath. Transverse CT image through lower lungs shows predominantly peribronchovascular ground-glass opacity with associated reticular pattern.



RB-ILD in a 41-year-old man with a 30 pack-year history of cigarette smoking. Transverse CT image shows widespread ground-glass opacification, with some poorly defined centrilobular nodules (arrowheads).

(*Radiology* 2005;236:10-21) © 2005 RSNA. All rights reserved. Printed with permission.

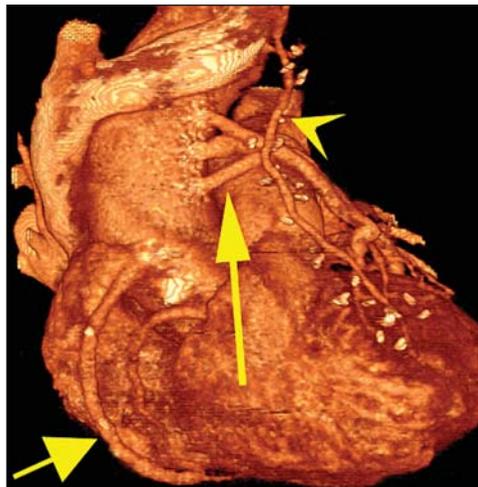
Coronary Artery Bypass Grafts: Assessment with Multidetector CT in the Early and Late Post-operative Settings

CORONARY artery bypass graft (CABG) surgery remains the standard of care in the treatment of advanced coronary artery disease. It is well recognized that the long-term clinical outcome after myocardial revascularization is dependent

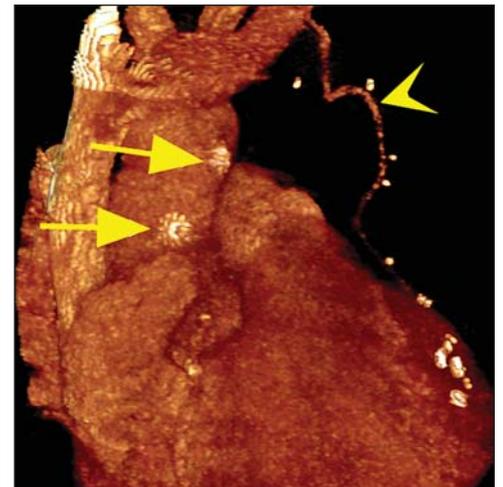
on the patency of the bypass grafts. Conventionally, invasive coronary angiography has been used to assess graft status and evaluate for graft occlusion.

In an article in the July-August issue of *RadioGraphics* (RSNA.org/radiographics), Aletta Ann Frazier, M.D., from the University of Maryland School of Medicine in Baltimore, and colleagues review the various types of

RadioGraphics



Three-dimensional volume-rendered image shows the typical appearance of multiple CABGs. The patient received three left saphenous vein grafts (SVGs) (long arrow), a right SVG (short arrow), and a left internal mammary artery (IMA) graft (arrowhead). Note the raised-star footprints and lateral placement of the SVGs, an appearance characteristic of the use of aortic connectors.



Three-dimensional volume-rendered image obtained five days after CABG surgery shows aortic connectors (arrows), which mark the proximal attachments of two SVGs to the ascending aorta. The grafts themselves are not visualized secondary to acute thrombosis. An intact left IMA graft is evident (arrowhead).

(*RadioGraphics* 2005;25:881-896) © 2005 RSNA. All rights reserved. Printed with permission.

Continued on page 15

Radiology in Public Focus

Press releases have been sent to the medical news media for the following articles appearing in the June issue of *Radiology* (rsna.org/radiologyjnl):

Seizure Disorders: Functional MR Imaging for Diagnostic Evaluation and Surgical Treatment—Prospective Study

FUNCTIONAL MR imaging (fMRI) plays a role in diagnostic and treatment decisions for patients with seizure disorders.

L. Santiago Medina, M.D., M.P.H., and colleagues from Miami Children's Hospital in Florida prospectively evaluated 60 patients with seizure disorders who were candidates for surgical treatment. Tests included language mapping, motor mapping and/or visual mapping.

In 35 (58 percent) of the 60 patients, the seizure team thought that fMRI results altered patient and family counseling. In 38 (63 percent) patients, fMRI results helped to avoid further studies, and in 31 patients (52 percent) and 25 (42 percent) patients, intraoperative mapping and surgical plans, respectively, were altered because of fMRI results.

"Imaging should provide the referring seizure team information that will affect the treatment of the patient," the researchers wrote. "fMRI results frequently suggest a change in the location of language dominance, increase the confidence level in the identification of critical brain function areas, alter patient and family counseling, and alter intraoperative mapping and the surgical approach."

Transverse functional MR image in eight-year-old left-handed female patient obtained with T2-weighted sequence (3750/60; flip angle, 90°) overlaid on a T1-weighted spoiled gradient-recalled acquisition in the steady state MR image. Functional MR imaging performed with the verb generation paradigm revealed language dominance in the left hemisphere for both Wernicke language-receptive areas (arrowheads) in posterior third of the middle temporal gyrus on the left side and Broca language-expressive areas (arrow) in inferior frontal gyrus on the left side. Bilateral auditory



representation is noted in the temporal lobes because verb generation paradigm input to the patient is given orally. Color scale follows the spectrum of white light from high (red) to low (violet) activation.

(*Radiology* 2005;236:247-253) © 2005 RSNA. All rights reserved. Printed with permission.

Media Coverage of Radiology

In May, 44 media outlets carried news stories generated from articles appearing in *Radiology*. These stories reached an estimated 54 million people.

CT screening for lung cancer (*Radiology* 2005;235:259-265) continued to draw attention. In addition to print coverage in *The Seattle Times*, *St. Louis Post-Dispatch*, *Charlotte*

Observer, *Star-Ledger*, *Honolulu Advertiser* and *The Palm Beach Post*, the Mayo Clinic study was featured in a *Newsweek* Web Exclusive, "Science and Your Health; A guide to some of the newest research and recommendations."

The *Chicago Tribune* reported on staffing shortages at community mammography

facilities (*Radiology* 2005; 235:391-395).

Diagnostic imaging's role in healthcare costs (*Radiology* 2005;235:934-939) was covered extensively online by *ABCNews.com*, *Forbes.com*, *DiscoveryHealth.com*, *ajc.com*, *iWon.com*, Yahoo! News, Healthday and HealthCentral, among others.

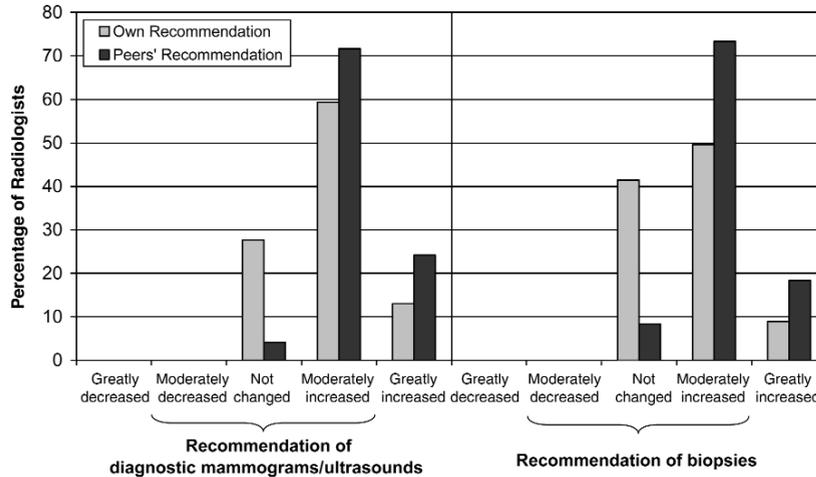


Does Litigation Influence Medical Practice? The Influence of Community Radiologists' Medical Malpractice Perceptions and Experience on Screening Mammography

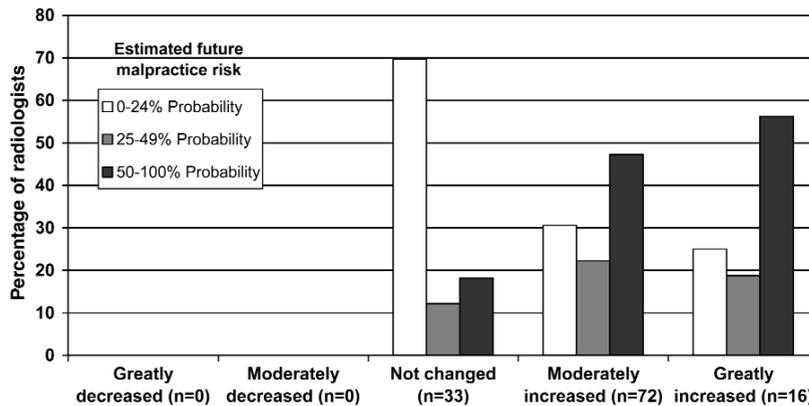
THREE out of four radiologists who interpret screening mammograms said they believe that concern about malpractice has led them to increase the number of women they send for diagnostic mammography and/or ultrasound exams. Half of the radiologists said they also believe they've increased their number of biopsy recommendations.

Joann G. Elmore, M.D., M.P.H., from the University of Washington School of Medicine, Harborview Medical Center in Seattle, and colleagues analyzed survey results from 124 radiologists in Washington, Colorado and New Hampshire.

In addition to the perception that concerns about medical malpractice have affected the interpretation of screening mammograms, the researchers found that one out of three radiologists said they have considered withdrawing from interpreting mammograms.



Bar graph shows that radiologists believed that their peers' recommendations were more influenced by malpractice concern than were their own recommendations.



Bar graph shows that, of radiologists who believed that their concerns about malpractice greatly increased the number of their recommendations for diagnostic mammography and/or US, the majority (56 percent) thought that their probability of being sued in the next five years was 50 percent or greater. Numbers below x-axis, which indicates how radiologists characterized the influence of malpractice on the number of their recommendations for diagnostic mammography and/or US, are numbers of radiologists.

(Radiology 2005;236:37-46) © 2005 RSNA. All rights reserved. Printed with permission.

RSNA press releases are available at www.rsna.org/media.

Coronary Artery Bypass Grafts: Assessment with Multidetector CT in the Early and Late Postoperative Settings

Continued from page 13

CABGs, describe the typical appearances of such grafts and identify the early and late complications of CABG surgery on multidetector CT images.

“Patency of the CABG is often the

most pressing clinical question in evaluation of the CABG patient after surgery. The advancing technology of electrocardiographically gated multidetector CT now allows the radiologist to

address this clinical concern in a rapid, convenient and noninvasive manner,” the authors wrote. □

This article meets the criteria for 1.0 CME credit.

Working For You

Request a Printed Copy of the RSNA Meeting Program

RSNA members can request a printed copy of the *RSNA Scientific Assembly and Annual Meeting Program*. Members can choose to have the printed copy mailed to them, or they can pick up the program at the annual

meeting. Receiving a printed copy of the *RSNA Meeting Program* is a benefit of membership.

To request a printed copy, go to rsna2005.rsna.org and click on Meeting Program. Members may

also call the RSNA Membership and Subscription Department at (877) RSNA-MEM [776-2636] (U.S. and Canada) or (630) 571-7873.

The deadline to request a printed copy of the *RSNA Meeting Program* is Septem-

ber 15. Members who do not exercise these options will not receive a printed copy in the mail. The content of the *RSNA Meeting Program* will be available online before, during and after the meeting.



(From left)
Ken Schulze
Kate McElherne
Jim Georgi
Nichole Drye-Mayo
Mary Sobczak
Joan McMillen
Chris Carr, Director

RSNA Informatics Department

RSNAs has long been a leader in advancing the use of information technology in radiology. The Department of Informatics was established in 1992 to support the Society's activities in this area.

Perhaps the most prominent of these activities is *infoRAD*, which, under the leadership of the Electronics Communications Committee, has been an integral part of the RSNA annual meeting for more than a decade. The Informatics Department also manages the Integrating the Healthcare Enterprise (IHE) initiative, RSNA's Medical Imaging Resource Center (MIRC) and

RadLex projects, each of which involves working with members, industry and other medical professionals to foster adoption of new technologies to improve patient care.

Working for you DEPARTMENT PROFILE

In concert with all other RSNA staff departments, the Informatics Department is also responsible for maintaining the Society's main Web site, *RSNA.org*, and the joint RSNA-ACR patient information site, *RadiologyInfo.org*. The department reports to RSNA Assistant Executive Director Steven T. Drew.

Continued on page 19

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

Program and Grant Announcements

NEW!

Surviving the Filmless Transition

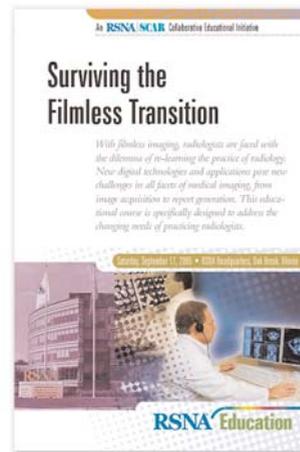
September 17, 2005 • RSNA Headquarters, Oak Brook, Ill.

REGISTER online at RSNA.org/education/shortcourses for this one-day course specifically designed to address the changing needs of practicing radiologists. Co-sponsored by RSNA and the Society for Computer Applications in

Radiology (SCAR), this course is for radiologists who are faced with the dilemma of relearning the practice of radiology because of new digital technologies and applications. These advancements pose new challenges in all facets of medical

imaging, from image acquisition to report generation.

For more information, contact the RSNA Education Center at (800) 381-6660 x3747 or ed-ctr@rsna.org.



Business Strategies for Radiology Leaders

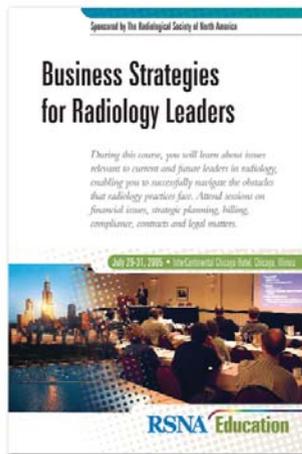
July 29–31, 2005 • InterContinental Chicago

THERE'S STILL TIME to register for this three-day, RSNA course designed for radiologists in leadership positions and for radiology business managers. Directed by Lawrence R. Muroff, M.D., the course explores obstacles facing today's radiology practices—financial issues, strategic planning, billing, compliance, contracts and legal matters—and ways to successfully navigate these challenges.

Topics include:

- Strategic Planning
- Radiology Department Budgeting
- Business Infrastructure
- Contracting with Managed Care Entities
- Contracts Between Radiology Groups and Their Group Members and Hospitals
- Turf Battles in Radiology
- Joint Ventures Between Hospitals and Radiology Groups
- Self-Referral in Diagnostic Radiology
- Marketing a Radiology Practice

For more information and to register, go to RSNA.org/education/shortcourses or contact the RSNA Education Center at (800) 381-6660 x 3747 or ed-ctr@rsna.org.



21 CME credits available

PowerRAD 2005

August 13, 2005 • RSNA Headquarters, Oak Brook, Ill.

LIMITED SPACE is still available for this one-day workshop. RSNA is sponsoring for radiologists, radiologic technologists and support personnel.

Directed by Paul J. Chang, M.D., this workshop will teach attendees how to convert analog and digital radiology images into electronic formats for presentations, case files and personal teaching files, and how to edit images and text using lecture software. Since RSNA will provide attendees with the use of a desktop computer, space is limited.

This course includes:

- Practical hands-on experience and personalized instructions
- Conference material binder
- CD-ROM software

For more information and to register, go to RSNA.org/education/shortcourses or contact the RSNA Education Center at (800) 381-6660 x 3747 or ed-ctr@rsna.org.



6.25 CME credits available



Research & Education Foundation Donors

THE BOARD OF TRUSTEES of the RSNA Research & Education Foundation and its recipients of research and educational grant support gratefully acknowledge the contributions made to the Foundation **May 1 – 30, 2005**.

For more information on Foundation activities, a quarterly newsletter, *Foundation X-aminer*, is available online at www.rsna.org/research/foundation/newsletters/x-aminer/x-aminer.pdf.

VANGUARD GROUP

Agfa Corporation



\$100,000

A Vanguard Company since 1989

Berlex Laboratories



\$105,000

A Vanguard Company since 2004

Toshiba Medical Systems



\$25,000

A Vanguard Company since 1990

RSNA PRESIDENT'S CIRCLE

\$1,500 per year

Lawrence L. Bauer, M.D.
Judy & William A. Murphy Jr., M.D.
Jack & Marilyn Price

Karen & Michael A. Sullivan, M.D.
Scott S. White, M.D.

DIAMOND (\$10,000+)

Jack & Marilyn Price

SILVER (\$200 - \$499)

Jane & Thomas T. Fox, M.D.
Alan C. Hartford, M.D., Ph.D.
Sung M. Kim, M.D.
Christopher M. Krol, M.D.
Max M. Mehta, M.D.
Jonathan A. Morgan, M.D.
Lewis Wexler, M.D.
Edward W. Wong, M.D.

BRONZE (\$1 - \$199)

Larry S. Anderson, M.D.
Todd D. Lovelace, M.D.
Mary Anne & C. Douglas Maynard, M.D.
Nancy A. Ellerbroek, M.D. & David Neill
Brijesh Reddy, M.D.
Gary E. Simmons, M.D.

COMMEMORATIVE GIFTS

Marilyn & Peter M. Bond
In memory of Robert G. Parker, M.D.
Kathryn Morton, M.D. & Carl Christensen, M.D.
In honor of David G. Bragg, M.D.
Betty & O. Wayne Houser, M.D.
In memory of Robert G. Parker, M.D.
Gary S. Lazar, M.D.
In memory of Robert G. Parker, M.D.
Isabel C. Menendez, M.D.
In memory of Benigno Menendez
Judy & William A. Murphy Jr., M.D.
In honor of Margaret and R. Gilbert Jost, M.D.
Eric Wong
In memory of Robert G. Parker, M.D.

The Foundation has launched a "Count Me In!" campaign for 2005. To learn more about how you can participate, see page 25.

Count Me In!

Online donations can be made at www.rsna.org/research/foundation/donation.

RSNA MEMBER BENEFITS

Continued from page 16

RSNA Joins PEHRC

RSNA is now a member of the Physicians Electronic Health Record Coalition (PEHRC).

PEHRC was established in July 2004 to present a unified physician voice in

health information technology. Its membership includes more than 20 major physician organizations.

PEHRC will assist physicians, particularly those in small- and medium-size

ambulatory care medical practice, to acquire and use affordable, standards-based electronic health records and other health information technology to improve quality, enhance patient safety

and increase efficiency.

These goals closely correspond with the goals of RSNA projects including the Integrating the Healthcare Enterprise (IHE) initiative.

Product News

NEW PRODUCT

New Hand-Carried Ultrasound System

SONOSITE, INC. (www.sonosite.com) has launched its MicroMaxx™ ultrasound system, the company's third generation hand-carried product. MicroMaxx weighs less than eight pounds. It's the size of a laptop computer and delivers image resolution and performance comparable

to conventional cart-based ultrasound systems weighing over 200 pounds.

"MicroMaxx represents the technology crossover point between hand-carried and cart-based systems," said Kevin M. Goodwin, SonoSite president and CEO. "With this new combination of performance and portability, the MicroMaxx system addresses tradi-

tional ultrasound markets such as radiology and cardiology, while further expanding ultrasound's utility in areas such as emergency medicine, anesthesiology and surgery. Use of the MicroMaxx system promises to benefit patients by delivering high performance ultrasound at less cost" with earlier diagnosis and treatment.



FDA APPROVAL

Non-Magnetic Smart Infusion Pump

IRadimed Corp. (www.iradimed.com) has received 510(k) FDA approval for its MRidium™ MRI Infusion Pump—the first non-magnetic smart infusion system designed for the MR environment.

The pump enables patients to continue to receive intravenous medications safely during the course of an imaging procedure, which is important for those patients on continuous infusion therapy.



FDA APPROVAL

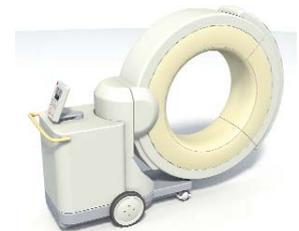
Mobile O-arm Imaging System

Breakaway Imaging™ (www.breakawayimaging.com) has received 510(k) FDA approval for its mobile O-arm® Imaging System. The system is designed for 2D fluoroscopic imaging and 3D volumetric imaging. It is also compatible with image-guided surgery systems.

Breakaway is initially targeting the O-arm for use in orthopedic and spine procedures. The system is mobile, can access patients lat-

erally, and is controlled using high-precision robotics.

Using a cone beam and pulsed x-ray source, the unit may deliver a lower radiation dose in 2D fluoro and/or 3D CT mode.



NEW PRODUCT

Dental Head Phantom

Fluke Biomedical's Radiation Management Services (www.flukebiomedical.com/rms) has announced the availability of the Dental Head Phantom for dental x-ray evaluation and other dosimetry applications.

"The Dental Head Phantom is the only phantom used for panoramic radiography, which is used in 50 percent of all dental practices, to accurately visualize the oral cavity. It effectively mimics an average adult male head in size, shape and structure and can be used in conjunction with CT to help detect changes in bone density and geometry for early disease detection," said Gary Kauf-



mann, diagnostic product line manager for Fluke's Radiation Management Services.

The Dental Head Phantom also includes larynx, trachea, sinus and nasal cavities. An articulating lower jaw with removable tongue enables easy access to teeth and air cavities. The phantom is made from tissue analogs for brain, bone, spinal cord, vertebral disks, tooth enamel and soft tissues that mimic actual tissues for both CT and therapy energy ranges (50 keV – 25 MeV).

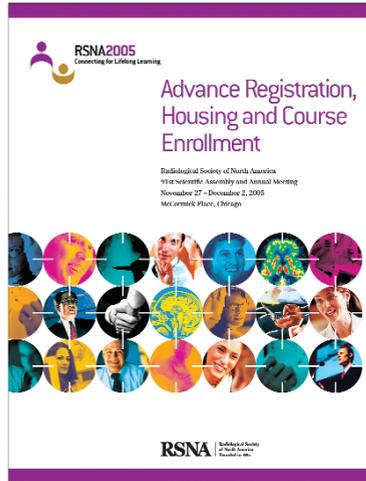
News about RSNA 2005

Enroll Now for Courses

Course enrollment for RSNA 2005 is under way. Online registration occurs instantly for refresher courses, info-RAD workshops, hands-on workshops, investment courses and RSNA tours and events. Faxed or mailed registration forms are processed in the order of receipt. The new Interventional Oncology Symposium also requires registration.

The Advance Registration, Housing and Course Enrollment brochure was mailed in mid-June. It is also available online at rsna2005.rsna.org.

You must be registered for RSNA 2005 in order to enroll for courses.



CME Update: Earn up to 83 AMA PRA category 1 CME credits at RSNA 2005

How to Register

There are four ways to register for RSNA 2005:

1 Internet

Go to RSNA.org/register. Use your member ID# from the **INSTANT CONFIRMATION!** RSNA News label or meeting flyer sent to you. If you have questions, send an e-mail to rsna@itsmeetings.com.

2 Fax (24 hours)

(800) 521-6017
(847) 940-2386

3 Telephone

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

4 Mail

ITS/RSNA 2004
108 Wilmot Rd.,
Suite 400
Deerfield, IL
60015-5124
USA



Registration Fees

BY 11/11	ONSITE	
\$0	\$100	RSNA Member, AAPM Member
\$0	\$0	Member Presenter
\$0	\$0	RSNA Member-in-Training, RSNA Student Member and Technical Student
\$0	\$0	Non-Member Presenter
\$120	\$220	Non-Member Resident/Trainee
\$120	\$220	Radiology Support Personnel
\$570	\$670	Non-Member Radiologist, Physicist or Physician
\$570	\$670	Hospital or Facility Executive, Commercial Research and Development Personnel, Healthcare Consultant, Industry Personnel
\$300	\$300	One-day registration to view only the Technical Exhibits area

For more information about registration at RSNA 2005, visit RSNA.org, e-mail reginfo@rsna.org, or call (800) 381-6660 x7862.



Continued on next page

News about RSNA 2005

Continued from previous page

International Delegates



Invitation Letters

Personalized invitation letters are available at RSNA.org listed under both Annual Meeting and International. The direct URL is www2.rsna.org/visa_form/invitation_letter.cfm.

Apply Early for Your Visa!

Visa applicants are advised to apply as soon as they decide to travel to the United States and at least **three to four months** in advance of their travel date. That means international attendees

should start the visa process by July or August.

The following Web sites have additional information on applying for a visa:

- www.unitedstatesvisas.gov
- travel.state.gov/visa
- nationalacademies.org/visas

Important Dates for RSNA 2005

- Oct. 28** International deadline to have full-conference badge and tickets mailed in advance
- Nov. 7** Final housing reservation deadline
- Nov. 11** Advance registration deadline
- Nov. 27–Dec. 2** RSNA 91st Scientific Assembly and Annual Meeting

RSNA2005
Connecting for Lifelong Learning



91st Scientific Assembly and Annual Meeting
November 27 – December 2, 2005
McCormick Place, Chicago



RSNA 2005 will offer about 300 refresher courses covering traditional and cutting-edge topics in subspecialty areas.

RSNA 2005 Exhibitor News

RSNA Technical Exhibition Tops in Healthcare Category

TRADESHOW WEEK has released its annual report of the top 200 trade shows in the United States. Rank

is determined by net square feet of paid exhibit space. The technical exhibition at RSNA 2004 was ranked #40 among

all trade shows and remains #1 among healthcare meetings.

A Sample of the 200 Largest Tradeshows of 2004

by Net Square Feet of Paid Exhibit Space

RANK	2004 SHOW	NET SQ. FT. OF EXHIBIT SPACE	EXHIBITING FIRMS	CITY	MONTH
1	Consumer Electronic Show	1,390,618	2,525	Las Vegas	January
2	PACK EXPO	1,233,130	2,042	Chicago	November
40	RSNA 2005	455,050	690	Chicago	November/December
58	Medical Design & Manufacturing West	324,590	1,672	Anaheim, Calif.	January
70	Medtrade	297,280	797	Orlando	October
74	PITTCON 2004	292,600	1,195	Chicago	March
76	HIMSS Annual Conference	285,500	715	Orlando	February
95	Medical Design & Manufacturing East	241,990	1,430	New York City	June
102	American Academy of Orthopaedic Surgeons	226,300	419	San Francisco	March
104	American Academy of Ophthalmology	223,500	493	New Orleans	October
106	American Society of Clinical Oncology	219,500	422	New Orleans	June
119	American College of Cardiology	202,266	119	New Orleans	March
128	American Dental Association	194,200	128	Orlando	September/October
129	American Heart Association	184,530	351	New Orleans	November

Source: Tradeshow Week 200



Exhibitor Planning Meeting

Booth assignments were released on June 28 at the Exhibitor Planning Meeting and Luncheon. More than 66 companies attended the meeting in suburban Chicago. In addition to booth assignments, company representatives learned about new features for RSNA 2005 and helped plan for the upcoming meeting.



Dennis Kay, M.D. (left), chairman of the RSNA Technical Exhibits Committee, provided an update on the number of exhibitors, square footage sold, and registration figures to date for RSNA 2005.

Continued on next page

RSNA 2005 Exhibitor News

Continued from previous page

Technical Exhibitor Service Kit

THE RSNA 2005 Technical Exhibitor Service Kit will be available beginning July 5 at rsna2005.rsna.org. Click on the Service Kit link in the Technical Exhibition area on the right.

A password will be mailed to the official exhibitor contact. Exhibitors can download service request forms and easily find important information such as registration hours, exhibit installation and dismantling hours, rules and regulations, RSNA forms, official contractor information, and marketing and promotional tools.

The electronic kit also allows online ordering capabilities with some contractors.

For up-to-date information about technical exhibits, go to rsna2005.rsna.org.



Important Exhibitor Dates for RSNA 2005

- July 5** Technical Exhibitor Service Kit available online
- July 6** Block Housing deadline date
- July 29** Deadline for reduction/cancellation (for full refund)
- Aug. 12** Deadline for final payment
Deadline for reduction/cancellation (for partial refund)
- Aug. 15** Deadline to submit Block Housing room deposits
- Aug. 26** Headquarters Office Space Assignments close
- Sep. 2** Deadline for submission of freeform/peninsula/mobile exhibit plans
- Sep. 19** Target move-in assignments released
- Oct. 12** RSNA net early bird deadline
- Oct. 14** Exhibitor Appointed Contractor Request Form deadline
- Nov. 27–** RSNA 91st Scientific
Dec. 2 Assembly and Annual Meeting



More than 60,000 people attended RSNA 2004 in Chicago.

RSNA2005
Connecting for Lifelong Learning



91st Scientific Assembly and Annual Meeting
November 27 – December 2, 2005
McCormick Place, Chicago

For more information, contact RSNA Technical Exhibits at (800) 381-6660 x7851 or e-mail: exhibits@rsna.org.

RSNA.org

Count Me In!

THE RSNA Research & Education Foundation has launched its annual appeal for donations with a new campaign, "Count Me In!"

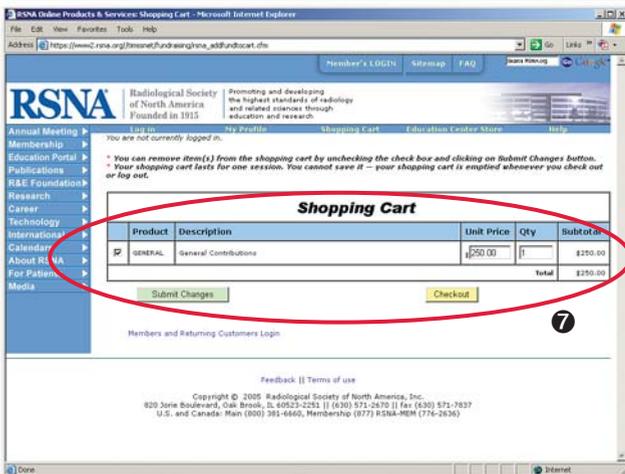
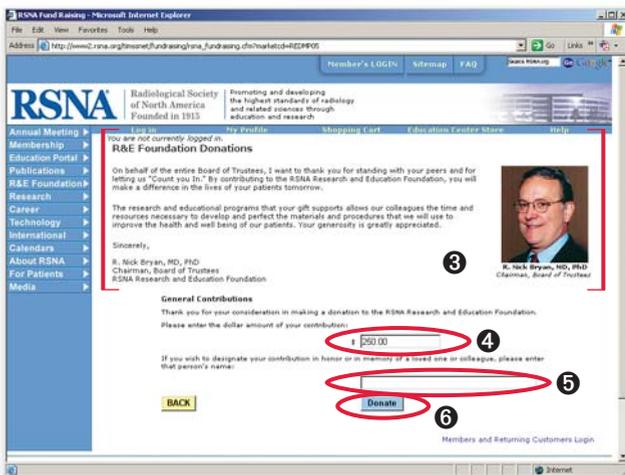
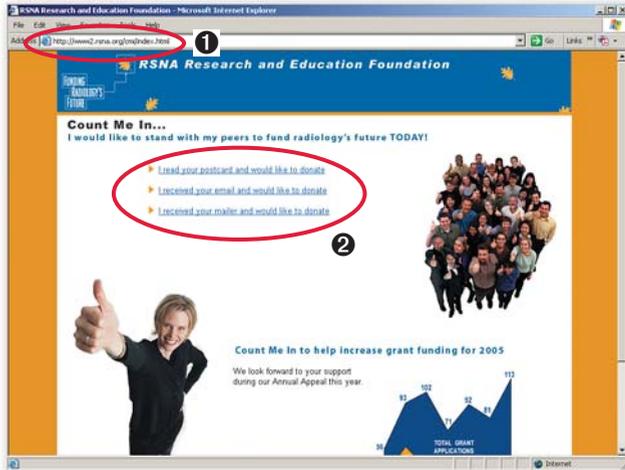
To donate online, go to RSNA.org/CountMeIn. ❶

Click on one of three options about how you first heard about the Count Me In campaign—postcard, e-mail or mailer. ❷

You will then see a letter from Foundation Chairman R. Nick Bryan, M.D., Ph.D., ❸ and a recommended donation of \$250.00. ❹

Type in the amount you wish to give. You may also add the name of a person or persons to whom you would like to commemorate with your donation. ❺

When you click on donate ❻, you will be taken to a secure site where you can complete the transaction. ❼ You may need to log-in using your member and password.



connections

Your online links to RSNA

- RSNA.org**
www.rsna.org
- Radiology Online**
rsna.org/radiologyjnl
- Radiology Manuscript Central**
rsna.org/radiologyjnl/submit
- RadioGraphics Online**
rsna.org/radiographics
- RSNA News**
rsnanews.org
- Education Portal**
rsna.org/education
- CME Credit Repository**
rsna.org/cme
- CME Gateway**
CMEgateway.org
- RSNA Medical Imaging Resource Center**
rsna.org/mirc
- RSNA Career Connections**
rsna.org/careers
- RadiologyInfo™**
RSNA-ACR patient information Web site
radiologyinfo.org
- RSNA Press Releases**
rsna.org/media
- RSNA Online Products and Services**
rsna.org/memberservices
- RSNA Research & Education Foundation**
Make a Donation
rsna.org/donate
- Community of Science**
rsna.org/cos
- Membership Applications**
rsna.org/mbrapp
- RSNA Membership Directory**
rsna.org/directory
- Register for RSNA 2005**
rsna.org/register
- RSNA 2005**
rsna2005.rsna.org

Medical Meetings

August – October 2005

AUGUST 1

American Society of Interventional & Therapeutic Neuroradiology (ASITN), 2nd Annual ASITN Course & Workshops, Turtle Bay Resort, Oahu, Hawaii • www.asitn.org

AUGUST 11-14

Clinical Magnetic Resonance Society (CMRS), 2005 Annual Society Meeting, Vail Cascade Resort & Spa, Vail, Colo. • www.cmrs.com

SEPTEMBER 7-10

Society for Molecular Imaging (SMI), 4th Annual Meeting, Gürzenich Congress Center, Cologne, Germany • www.molecularimaging.org

SEPTEMBER 10-14

Cardiovascular and Interventional Society of Europe (CIRSE), Annual Meeting and Postgraduate Course, Nice Acropolis, Nice, France • www.cirse.org

SEPTEMBER 14-17

International Organization for Medical Physics (IOMP), 14th International Conference of Medical Physics, 9th European Congress of Medical Physics, 64th Annual Meeting of the German Society of Medical Physics (DGMP), 39th Annual Meeting of the German Society for Biomedical Engineering, CongressCenter Nürnberg, Germany • www.icmp2005.org

SEPTEMBER 14-17

Sociedad Mexicana de Radiología e Imagen (SMRI), IV Annual Ultrasound Course, Hotel Sheridan Maria Isabel, Mexico City • www.smri.org.mx

SEPTEMBER 15-17

Journal of the American Medical Association (JAMA), *British Medical Journal (BMJ)*, 5th International Congress on Peer Review and Biomedical Publication, Fairmont Hotel, Chicago • www.jama-peer.org

SEPTEMBER 17

Surviving the Filmless Transition, RSNA | SCAR, RSNA Headquarters, Oak Brook, Ill. • RSNA.org/education/shortcourses

SEPTEMBER 21-24

American Society of Head and Neck Radiology (ASHNR), 39th Annual Meeting, Renaissance Parc 55 Hotel, San Francisco • www.ashnr.org

SEPTEMBER 21-24

American Society of Emergency Radiology (ASER), Annual Meeting and Postgraduate Course, Westin La Paloma Resort and Spa, Tucson, Ariz. • www.erad.org

SEPTEMBER 22-24

European Society of Head and Neck Radiology (ESHNR), Annual Congress, Keble College, Oxford, United Kingdom • eshnr2005.org

SEPTEMBER 25-28

European Federation of Societies of Ultrasound in Medicine and Biology, 17th European Congress of Ultrasound, Palexpo Congress & Exhibition Centre, Geneva, Switzerland • www.euroson2005.org

SEPTEMBER 28-OCTOBER 1

International Skeletal Society (ISS), 32nd Annual Refresher Course, Raffles City Shopping and Convention Centre, Singapore • www.iss2005.com

SEPTEMBER 29-OCTOBER 2

Canadian Association of Radiology (CAR), 68th Annual Scientific Meeting, Fairmont Château Lake Louise, Alberta, Canada • www.car.ca

OCTOBER 5-8

II Iberian Forum on Telemedicine: Teleradiology in the Digital Era, Expoveiras, Viseu, Portugal • www.fitelemmed.org

OCTOBER 8-11

North American Society for Cardiac Imaging (NASCI), 33rd Annual Meeting & Scientific Sessions, Ritz-Carlton, Amelia Island, Fla. • www.nasci.org

NOVEMBER 27-DECEMBER 2

RSNA 2005, 91st Scientific Assembly and Annual Meeting, McCormick Place, Chicago • rsna2005.rsna.org

RSNANews

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

NONPROFIT ORG.
U.S. POSTAGE
PAID
PERMIT #186
EASTON, PA 18042