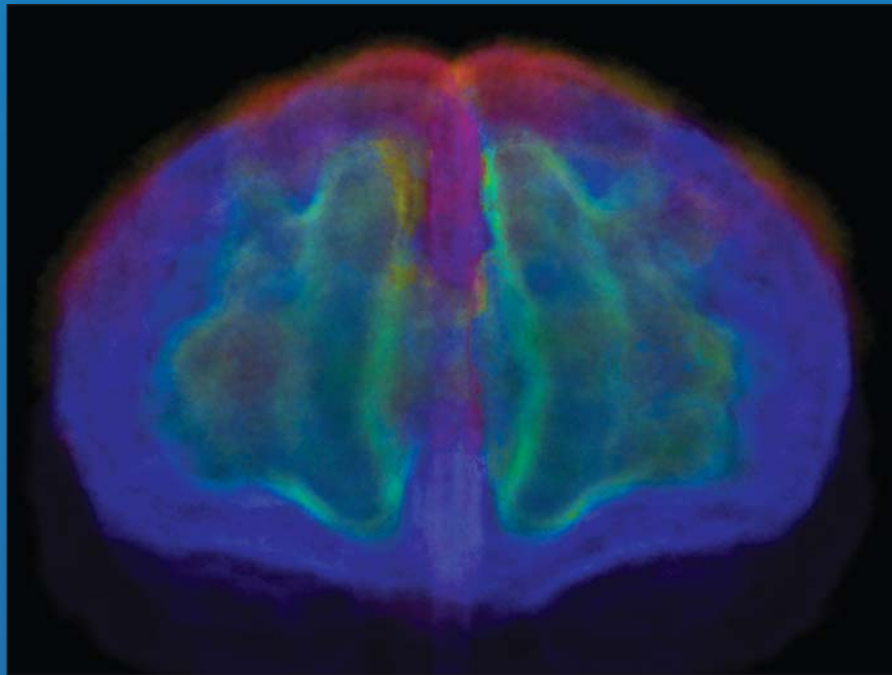


RSNA *News*



Composite image courtesy of Dr. Arthur W. Toga, Laboratory of Neuro Imaging

Groundbreaking Alzheimer Disease Neuroimaging Trial Begins

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- MRS Supports “Energy Starvation” Hypothesis in Heart Failure
- Handheld Technology for Radiology on the Brink of Big Expansion
- Taking Care of Your Financial Health: Estate Planning for Physicians—Part 3
- Competition Drives Need for Marketing at Outpatient Academic Centers
- RSNA Research Scholar Sets New Standard of GU Care

**Advance Registration for RSNA 2005
Begins April 25**

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RSNA News

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SUR/SGR Awards

THE Society of Uroradiology (SUR) presented two gold medals during its 30th scientific assembly in San Antonio.

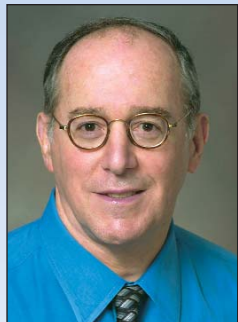
The distinguished recipients were RSNA president-elect **Robert R. Hattery, M.D.**, from Tucson, Ariz., and **John R. Thornbury, M.D.**, from Castle Rock, Colo.

The Society of Gastrointestinal Radiologists (SGR) held its 34th annual meeting concurrently.

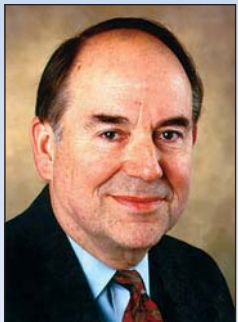
Charles A. Rohrmann Jr., M.D., from Seattle, received the Walter B. Cannon Medal and **Albert L. Baert, M.D., Ph.D.**, from Leuven, Belgium, was named distinguished international member.



Robert R. Hattery, M.D.



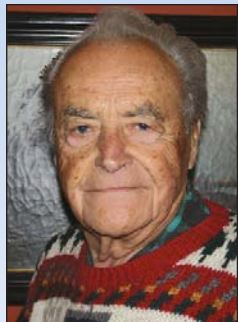
Frederick S. Keller, M.D.



John Abele



Peter R. Mueller, M.D.



Kurt Amplatz, M.D.

SIR Gold Medals

The Society of Interventional Radiology (SIR) presented two gold medals during its annual meeting in New Orleans. They were awarded to:

- **Frederick S. Keller, M.D.**, who specializes in embolotherapy and the diagnosis and treatment of gastrointestinal bleeding. He is a past-president of SIR.

- **John Abele**, the co-founder and chairman of Boston Scientific Corporation, and co-founder of the SIR Foundation.

Peter R. Mueller, M.D., presented the Dr. Charles T. Dotter Lecture. **Kurt Amplatz, M.D.**, received the 2005 Leaders in Innovation Award.

Boston Medical Library Appoints Sood as Trustee

Ajay Sood, M.D., a fellow in interventional radiology at Beth Israel Deaconess Medical Center in Boston, has been appointed a trustee of the Boston Medical Library.



Ajay Sood, M.D.

The library serves as a resource for the students and faculty of Harvard Medical School, Boston University Medical School, Tufts University School of Medicine and the University of Massachusetts Medical School.

McArthur Joins Stentor Board

John H. McArthur, D.B.A., M.B.A., has been named to the Stentor board of directors. McArthur is a former chair of Brigham & Women's Hospital and former board co-chair for Partners Healthcare System.

SMRI Honors

The Sociedad Mexicana de Radiología e Imagen honored four people during its February meeting in Mexico City. The awards and the recipients are:

AWARD FOR ACADEMIC EXCELLENCE

- **Pablo R. Ros, M.D., M.P.H.**
- **Pedro Salmerón Suevos, M.D.**

HONORARY MEMBERSHIP

- **Felipe Vázquez Guzmán, M.D.**
- **Ing. Federico Hollander**

SMRI also presented RSNA with a silver tray to recognize 10 years of collaboration between the two societies.



Send your submissions for *People in the News* to rsnanews@rsna.org, (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.

IN MEMORIAM:

John S. Laughlin, Ph.D.

A FOUNDER of the American Association of Physicists in Medicine and a pioneer in the field of radiation therapy has died from complications of acute myelogenous leukemia. **John S. Laughlin, Ph.D.**, was 86.

He chaired the Department of Medical Physics at Memorial Sloan-Kettering

Cancer Center from 1952 until 1989. There he installed the first betatron dedicated to medical use and one of the first cyclotrons used in a medical research center. He was recognized for seminal work in treatment planning, including initial applications of computers and the design of small ionization chambers

for bone marrow and soft tissue dose measurement in the diagnostic x-ray range.

Dr. Laughlin became an RSNA member in 1954 and was a third vice-president of the Society in 1992. He earned many



John S. Laughlin, Ph.D.

awards including a gold medal from the American Society for Therapeutic Radiology and Oncology and the American College of Radiology.

ACR Gold Medals

The American College of Radiology (ACR) presented two gold medals during its annual meeting this month in Washington. The recipients are:

- **Robert W. Holden, M.D.**, an interventional radiologist, who is dean emeritus of the Indiana University (IU) School of Medicine and a professor emeritus at IU.
- **Kay H. Vydareny, M.D.**, who is a professor in the Department of Diagnostic Radiology at Emory University.

ACR also presented honorary fellowship to **Francisco Arredondo, M.D.**, **Jens Overgaard, M.D.**, and **Rolf Gunther, M.D.**



Robert W. Holden, M.D.



Kay H. Vydareny, M.D.

Berlin Earns CRS Honor

Leonard Berlin, M.D., chairman of the Department of Radiology at Rush North Shore Medical Center in Skokie, Ill., will receive the 2004-2005 Distinguished Service Award from the Chicago Radiological Society (CRS).

The award will be presented this month by **Jonathan W. Berlin, M.D.**, his son and a fellow radiologist.

Leonard Berlin is a CRS past-president and will become the president-elect of the Illinois Radiological Society on May 1st.



Leonard Berlin, M.D.



Kevin J. Hobert

Hobert New Kodak President

Eastman Kodak Company has appointed **Kevin J. Hobert** as president of Kodak's Health Group. He previously served as vice-president of the division.

ANNOUNCEMENTS

Ophthalmology Joins IHE

RSNA's Integrating the Healthcare Enterprise (IHE) initiative continues to grow and expand to include more medical specialties.

The American Academy of Ophthalmology has joined the effort to improve the way computer systems in health-

care share information, and will host an IHE demonstration this fall. The ophthalmology domain is called "IHE Eyecare."

Since RSNA and the Healthcare Information and Management Systems Society launched IHE in 1998,

the initiative has expanded from radiology and IT infrastructure to include nuclear medicine, radiation oncology, clinical laboratory and pathology, cardiology and now ophthalmology.

IHE is also a main partic-



ipant in the dialog to create a national health information network. See the March issue of *RSNA News* for more details.

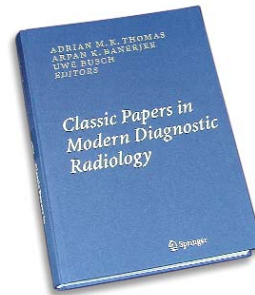
Radiology Articles Cited as "Classic"

A NEW BOOK, *Classic Papers in Modern Diagnostic Radiology* (Springer-Verlag Berlin Heidelberg 2005), highlights a selection of the most important articles in diagnostic radiology since a similar book was published in the 1960s.

Ten papers from *Radiology* are among the 61 papers listed. They

include four papers on mammography, three papers on digital imaging, and one each on CT, PACS and angiography and interventional radiology.

"The editors have had a very difficult task in selecting the key discoveries and descriptions," wrote



Willi A. Kalender, Ph.D., in the forward of the book. "The radiological literature is very large. Medical imaging continues to develop rapidly and these papers are the foundations of our current practice."

Titles	Lead Author	Citation
Chapter 1: CT		
• Spiral volumetric CT with single-breath-hold technique, continuous transport, and continuous scanner rotation	Kalender, WA	<i>Radiology</i> 1990;176:181-183
Chapter 4: Digital Imaging		
• Computerized fluoroscopy in real time for noninvasive visualization of the cardiovascular system. Preliminary studies	Kruger, RA	<i>Radiology</i> 1979;130:49-57
• Computed radiography utilizing scanning laser stimulated luminescence	Sonoda, M	<i>Radiology</i> 1983;148:833-838
• Digital radiography of the chest: clinical experience with a prototype unit	Fraser, RG	<i>Radiology</i> 1983;148:1-5
Chapter 5: PACS		
• An all-digital nuclear medicine department	Parker, JA	<i>Radiology</i> 1983;147:237-240
Chapter 7: Angiography and Interventional Radiology		
• Selective coronary arteriography	Judkins, MP	<i>Radiology</i> 1967;89:815-824
Chapter 8: Mammography		
• Experience with mammography in tumor institution: evaluation of 1000 studies	Egan, RL	<i>Radiology</i> 1960;75:894-900
• Mammographic microcalcifications: detection with xerography, screen- film, and digitized film display	Smathers, RL	<i>Radiology</i> 1986;159:673-677
• Breast imaging: dual-energy projection radiography with digital radiography	Asaga, T	<i>Radiology</i> 1987;164:869-870
• Stereotactic breast biopsy with a biopsy gun	Parker, SH	<i>Radiology</i> 1990;176:741-747

Draft Guidance on Medical Products to Treat Radiation Contamination

The Food and Drug Administration (FDA) is accepting comments until mid-April on its draft "Guidance for Industry: Internal Radioactive Contamination-Development of Decorporation Agents."

The guidance provides advice on what studies sponsors need to perform to evaluate new decorporation agents in the hopes of getting these products approved by the FDA. It also provides guidance to industry on the development of decorporation agents for which evidence is needed to demonstrate effectiveness but for which human efficacy studies are unethical or not feasible.

For more information, go to www.fda.gov/bbs/topics/news/2005/NEW01157.html. To review the draft guidance, go to www.fda.gov/cder/guidance/6394dft.pdf.



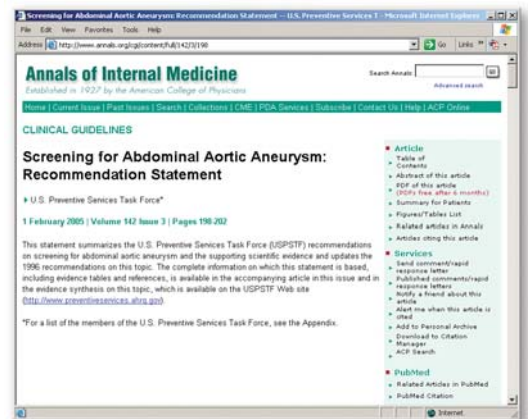
AAA Screening for Men

The U.S. Preventive Services Task Force (USPSTF) has recommended one-time ultrasound screening for abdominal aortic aneurysm (AAA) in men age 65 to 75 years who smoke or who have ever smoked.

The recommendation appears in the February 1 issue of the *Annals of Internal Medicine*, available at www.annals.org/cgi/content/full/142/3/198.

Complete information, including evidence tables and references, is also available on the USPSTF

Web site at www.ahrq.gov/clinic/uspstf/uspseaneu.htm.



Groundbreaking Alzheimer Disease Neuroimaging Trial Begins

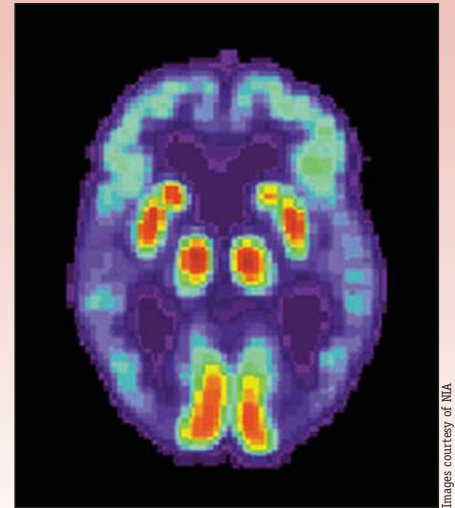
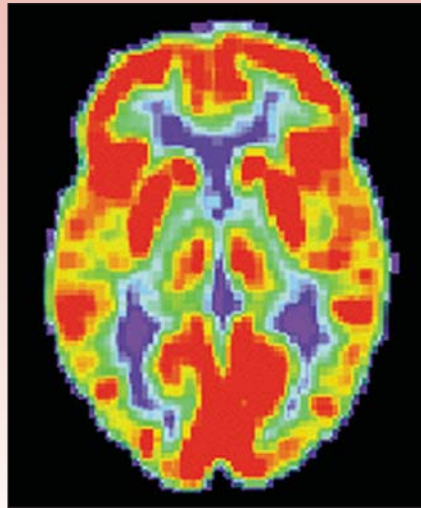
IMAGING IS leading the way in a groundbreaking study designed to establish Alzheimer disease (AD) biomarkers and to better understand AD diagnosis and therapeutic response.

The Alzheimer's Disease Neuroimaging Initiative (ADNI)—a \$60 million, five-year public and private partnership—will study the combination of serial MR imaging, positron emission tomography (PET), biological markers, and clinical and neuropsychological assessment in measuring the progression of mild cognitive impairment (MCI) and early AD.

“Imaging is a promising tool for diagnosing early AD and following disease progress and treatment effect,” said Susan Molchan, M.D., program director for AD clinical trials at the National Institute on Aging (NIA). “The AD associated changes in the brain happen decades before symptoms are evident. The hope is that eventually, treatments will be developed that can prevent or slow the disease early in its course.”

Because of that, time is critical. The seven- to 10-year wait for results of clinical trials is too long. “Markers need to be established now to lessen the cost and time of trials,” Dr. Molchan said. “Some of the most promising biomarkers are from imaging.”

More than four million Americans have AD and countless others have



PET scans of a normal brain (left) and an Alzheimer disease brain (right).

Images courtesy of NIA

dementia, resulting in a cost of more than \$100 billion annually to the U.S. economy, according to government statistics. By 2025, the incidence of dementia is expected to double.

Although existing treatments are not known to slow the progression of AD, many new therapies are being developed. When effective AD treatments are available, subjects at risk for cognitive decline and dementia will need to be identified at the earliest stage possible.

The information on disease course and biomarkers collected in ADNI are expected to help develop new AD treatments by monitoring their effectiveness. NIA said the project is the most comprehensive effort to date to find

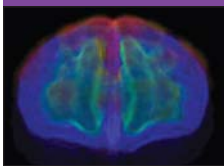
neuroimaging and other biomarkers for the cognitive changes associated with mild cognitive impairment and AD.

The three goals of initiative are to:

- 1 Establish uniform standards for acquiring longitudinal, multi-site MR imaging and PET data on patients with AD, MCI and elderly controls.
- 2 Develop an accessible data repository that describes longitudinal changes in brain structure and metabolism while acquiring clinical, cognitive and biomarker data for validation of imaging surrogates.
- 3 Determine which methods provide maximum power to study treatment effects in trials involving these patient groups.

ADNI will compare neuroimaging, biological and clinical information from 800 participants to find correlations that

ON THE COVER:



Courtesy of Dr. Arthur W. Toga, Laboratory of Neuro Imaging

Anterior view of the anatomical sub-volume probabilistic atlas (ASVPA) of the Alzheimer disease (AD) population

The ASVPA atlas was obtained by merging a large family of AD subjects' MRI volumes into a common reference space using stereo-tactaffine registration.

Then to every voxel within the ASVPA atlas a probability value is assigned to represent the chance this voxel belongs to a particular anatomical region of

interest across the entire family of AD subjects. White matter, gray matter, and CSF are modeled separately within the 180 regions of interest. The green

and blue colors on this snapshot indicate the average distribution of the CSF and gray matter, respectively, across the AD population.

Preclinical AD



Mild to Moderate AD



Severe AD



Illustrations courtesy of NIA

Illustrations of the various stages of AD. The blue indicates affected areas.

track memory loss progression from the earliest stages. Approximately 50 sites across the United States and Canada will participate. Enrollment of patients—adults ages 55 to 90 years—begins in mid-May.

“We hope to learn which imaging modalities have the greatest power to detect the rates of change in the brain in healthy aging, mild cognitive impairment and the transition to Alzheimer disease,” said ADNI principal investigator Michael W.

Weiner, M.D. “We are developing improved methods for imaging in AD clinical trials. ADNI will provide a huge amount of clinical biomarker and imaging data for future analysis.”

The ultimate goal, he said, is to establish validated biomarkers for AD treatment trials that will speed conduction of studies and reduce the number of subjects required.

“Most radiologists are involved in looking at scans and making diagnoses,” explained Dr. Weiner, who is director of the MR unit at the VA Medical Center in San Francisco and professor of medicine, radiology, psychiatry and neurology at the University of California, San Francisco. “ADNI establishes standards for obtaining images, and all images will be quantitatively measured. Ultimately, radiologists may become more and more involved in

quantitative analysis of images, and ADNI is another step in that direction.”

Dr. Weiner is urging RSNA members who are located at a site and are involved in imaging research to develop projects that use the ADNI data.

Collaborative Study is First of Its Kind

This type of study is going to be the wave of the future, according to Dr. Molchan. “I think that with many complex diseases we are going to need

more than one biomarker,” she said. “Heart disease is an excellent example—blood pressure, as well as cholesterol levels, homocystine and C-reactive protein affect risk. We think a battery of tests will be needed to definitively diagnose AD and follow treatment. Neuroimaging is a valuable tool for this type of assessment.”

Several pharmaceutical companies, the National Institute of Biomedical Imaging and Bioengineering (NIBIB), Food and Drug Administration (FDA), Alzheimer’s Association, Institute for the Study of Aging, and the National Institutes of Health (NIH) Foundation have partnered with NIA on the initiative. The NIH Foundation has received more than \$20 million in corporate commitments for ADNI. The federal government is funding about two-thirds of the study and private partners will fund the remaining third. Additional

NIH grants will fund ancillary studies.

“The public/private partnership component is important,” said Dr. Molchan. “We have been very happy with it and think it’s a great model for public/private partnership. We’ve been working with pharmaceutical companies, universities, the FDA and NIH to get everyone in this field involved in the neuroimaging initiative.”

NIBIB Deputy Director Belinda Seto, Ph.D., agreed about the importance of the partnership.

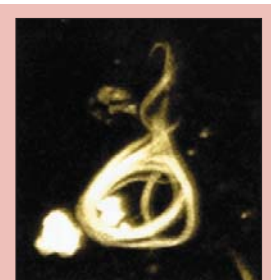
“ADNI has a component on neuroimaging that lends itself to this institute’s expertise and mission, which is focused on biomedical imaging. NIBIB does not have an emphasis on clinical trials or large-scale human subject studies. We are typically involved in technology development and may support research in early phase feasibility studies.”

Dr. Seto said NIBIB is reaching out to other institutes and research communities to partner and leverage resources—both intellectual and material—to do things that NIBIB cannot do on its own.

For more information on ADNI, go to www.loni.ucla.edu/ADNI. □

We hope to learn which imaging modalities have the greatest power to detect the rates of change in the brain in healthy aging, mild cognitive impairment and the transition to Alzheimer disease.

Michael W. Weiner, M.D.



AD Tangle

Over the last few years, scientists have been giving an increasing amount of attention to tau, another hallmark of AD. This protein is commonly found in nerve cells throughout the brain. In AD, tau undergoes changes that cause it to gather together abnormally in tangled filaments in neurons.

Image courtesy of NIA

MRS Supports “Energy Starvation” Hypothesis in Heart Failure

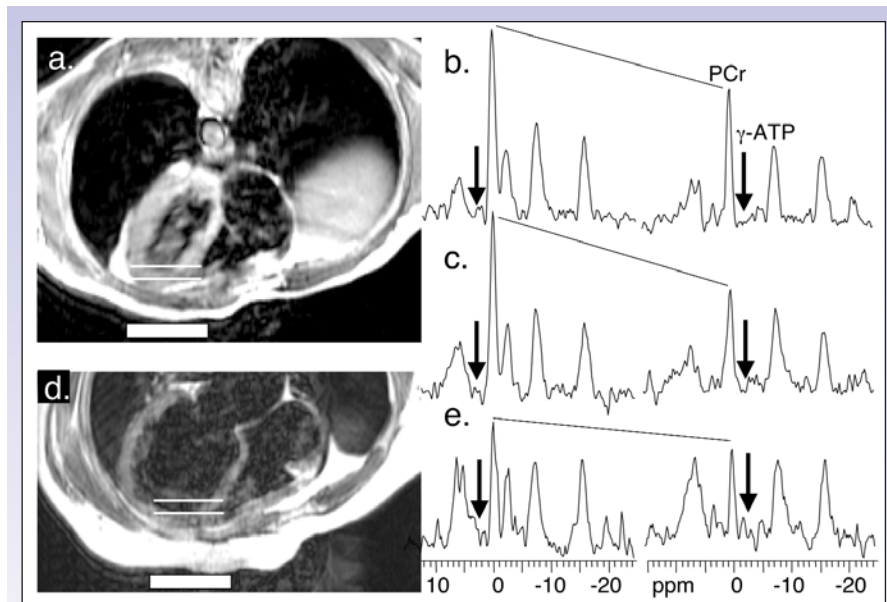
USING MR spectroscopy (MRS), researchers at Johns Hopkins University School of Medicine have directly measured the rate at which the human heart produces adenosine triphosphate (ATP) through the creatine kinase (CK) reaction.

Writing in the January 18 issue of the *Proceedings of the National Academy of Sciences*, the research team concluded that “these direct measures of ATP synthesis through CK in the human heart demonstrate a deficit in energy supply in clinical heart failure. This reduction ... is cardiac specific and occurs in mild to moderate heart failure before a significant reduction in ATP can be detected.”

These findings support the “energy starvation” hypothesis of heart failure and could lead to new therapies for heart failure patients, said senior author, Paul A. Bottomley, Ph.D., director of the Division of MR Research in the Russell H. Morgan Department of Radiology and Radiological Science at Johns Hopkins.

In a group of 14 healthy controls, four angle saturation transfer (FAST) studies revealed that the rate of ATP flux remained constant, regardless of exercise status. “We did a pharmaceutical stress at 200 percent of the workload of the heart, doubling the heart rate and blood pressure, and the energy flux stayed the same. This means that the supply of ATP from CK is not unlimited,” said Dr. Bottomley.

He compared these *in vivo* processes to gasoline reaching an automobile engine. “When you put your foot to the floor, the engine will choke if it’s not getting enough fuel or energy. Similarly, you can’t just keep ratcheting up exercise,” he explained. “In our



Cardiac MR imaging and ^{31}P spectra from FAST studies of a normal subject acquired at rest (a and b) and during dobutamine stress (c); and of a 37-year-old patient with NYHA class III heart failure at rest (d and e).

Images courtesy of Paul A. Bottomley, Ph.D. © 2005 by The National Academy of Sciences, U.S.A.

group of patients with heart failure studied at rest, we found that the energy supply was reduced by about half, which was quite surprising. So if the energy supply is halved, could it be that there would not be enough energy to meet demand? When we did the calculations it appears that energy supply could well be limited during stress or exercise in patients with mild-to-moderate heart failure, or even at rest in very severe cases.”

This would be another explanation why patients live longer when they’re given ACE inhibitors and β -blockers that inhibit humoral response and reduce energy needs, said Dr. Bottomley, who is anxious to begin further research into the effects of linking improvement in energy supply with improvement in clinical symptoms.

“From the viewpoint of research,

we think this is a major step forward in linking reduced energy supply and heart failure,” he said. “A lot of MR studies just involve development and applications of techniques in direct clinical, diagnostic or therapeutic studies. Of course, that’s a very worthy and valid approach to radiology research, but in addition, we can also use such techniques to find some new understanding of disease and its underlying causes.”

To view the abstract of the article, go to www.pnas.org, click on Archives and then choose the January 18, 2005, issue pages 808-813. □

Handheld Technology for Radiology on the Brink of Big Expansion

PERSONAL DIGITAL ASSISTANTS (PDAs) and other handheld devices are soon expected to become even more valuable to radiologists. Recent advances in PDA technology, including high-resolution screens, increased storage capacity and wireless networking, are leading to the development of more sophisticated radiology-specific applications.

"I think we're at a turning point where the applications are just starting to catch up with the technology that's available," said William W. Boonn, M.D., a radiology resident at the Hospital of the University of Pennsylvania in Philadelphia and also the founder of the Web sites *MedicalPocketPC.com* and *MedicalTabletPC.com*.

Dr. Boonn and Adam E. Flanders, M.D., a neuroradiologist from the Department of Radiology at Thomas Jefferson University Hospital in Philadelphia, conducted a survey of RSNA members to gauge the use of PDAs in radiology and compare it with other medical specialties. Their article appears in the March-April issue of *RadioGraphics*.

Of the 528 RSNA members who participated in the survey, 238 (45.1 percent) reported owning a PDA or using a PDA on a daily basis. The most common use was for the address book and calendar functions.

"The surprising thing was that less than a quarter of the respondents use



William W. Boonn, M.D.
Hospital of the University of Pennsylvania



Adam E. Flanders, M.D.
Thomas Jefferson University Hospital

these devices for radiology-specific applications—that's lower than the percentage for other physicians, such as internal medicine physicians, who use their PDAs for medicine-specific applications," Dr. Boonn reported.

He suggested two reasons for the finding. "One, I think clinicians are often more on the go and may not have access to a PC. Therefore, it's much more convenient for them to be able to access infor-

mation on a portable handheld," he explained. "That's in contrast to the radiologist who often works in front of a full PACS workstation and desktop computer."

We're at the cusp right now where a lot of the applications that we may use on a daily basis as radiologists will be able to reside on a handheld device or a device slightly larger than a handheld.

Adam E. Flanders, M.D.

The second reason involves the technology itself. "For a while, PDAs really were not powerful enough to handle a lot of the tasks that were required by radiologists," he said. "For example, viewing radiology images requires a fairly high-resolution screen. Only the more recent PDAs have had the capability of displaying these higher resolution images."

The storage requirement for images is also much higher than for text data or applications like drug databases. "Previously, PDAs did not have the memory capability to store sufficient images to be really useful," Dr. Boonn said. "But at this point, the newer, more powerful PDAs can carry up to a gigabyte or more of memory. Therefore, the applications that are designed for the radiologist can be much more useful."

The survey also showed that

Continued on next page

Continued from previous page

residents and fellows were more likely to own PDAs than were attending physicians. The residents and fellows were also more likely to have radiology software installed on their PDAs.

"I think younger trainees are much more comfortable with the devices. And, in a lot of ways, they have a greater need for radiology-based applications than radiologists who are already in practice," said Dr. Boonn.

Radiology Applications on the Horizon?

The researchers also found a relative lack of PDA software designed for radiology, compared with other medical specialties.

Dr. Flanders suggests two applications that could be useful for radiologists. "I think it would be really compelling for radiologists to be able to dictate into their PDA directly into a speech recognition engine," he said. "Sometimes radiologists are in a procedure room or the operating room and have to dictate a report. It would be easier if they could just dictate into a device they have in their pocket and the report could be immediately uploaded into the radiology information system for the clinician or whomever needs to view the report."

Dr. Flanders also suggested being able to monitor a radiology practice via a PDA. "Today's radiology practices are often decentralized and typically own multiple imaging centers," he explained. "Even with soft copy read-

ing, many radiologists find that they are splitting time between two or more sites each day. Using a Web-enabled cell phone/PDA, radiologists can potentially have instant access to information from anywhere about their practice that normally would have required a few phone calls and more time."

He said valuable practice metrics could include:

- Up-to-date information about the patient schedule to identify delays or backlogs
- Monitoring workflow for volume of undictated studies or unsigned reports
- Access to the protocol engine at a modality to make up-to-the-minute changes in study design

Dr. Boonn said several radiology applications are being developed for the PDA that take advantage of wireless networking. "These include the ability to protocol studies or to monitor the workflow parameters on the network," he said, pointing to a number of posters and demonstrations of novel projects involving PDAs in radiology that he saw at RSNA 2004 in the Mobile Computing Pavilion and in the *infoRAD* area.

Is there any other technology that might compete with or even eclipse the PDA for use among radiologists? Drs. Boonn and Flanders agree it is the Tablet PC.

"The Tablet PC is a full-featured Windows XP system that allows you to run desktop applications on a fairly portable device," Dr. Boonn said.

"Almost any application that you can run on your desktop computer, such as your Web-based PACS, RIS or speech recognition program can be run on a Tablet PC. The advantage of these devices is the ability to use a stylus for pen-based input. The screen resolution on the Tablet PC is also much higher and, as a result, may replace the PDA for some people. The downside is that these devices are more expensive and are not as mobile as PDAs."

Although their study showed that the number of radiology applications and radiology-specific use are both fairly low at this time, Drs. Boonn and Flanders said that will soon change.

"With the advent of more powerful PDAs, the growth in development of software applications and the fact that more and more trainees are coming into practice comfortable using PDAs, I think the future is pretty bright for the exciting use of PDAs in radiology," Dr. Boonn emphasized.

"We're at the cusp right now where a lot of the applications that we may use on a daily basis as radiologists will be able to reside on a handheld device or a device slightly larger than a handheld," Dr. Flanders added. "Get ready. There are a lot of exciting things to look for in the next few years."

To view the *RadioGraphics* article, go to rsna.org/radiographics and click on the journal cover for the current issue articles. □

Survey Demographics

Of 1,658 randomly selected active and training RSNA members within North America, 528 (32.4 percent) completed the survey.

- 417 Men (79.0%)
- 104 Women (19.7%)
- 181 Academic Practice (34.3%)
- 319 Private Practice (60.4%)
- 91 Trainees (17.2%)
- 413 Attending or Board-certified Radiologists (78.2%)

Use of PDAs

238 (45.1%) on a daily basis

- Address book and calendar (98.3%)
- Drug references (31.2%)
- Radiology applications (24.6%)
- General medical references (21.7%)
- E-mail/internet access (13.6%)

290 (54.9%) did not use a PDA

- Never really found a need for one (83.3%)
- Poor screen readability (19.7%)
- Too awkward to use (16.7%)
- Not enough applications (13.3%)
- Not enough radiology software available (12.9%)

Competition Drives Need for Marketing at Outpatient Academic Centers

OUTPATIENT ACADEMIC radiology centers face increasing competition for imaging services from private radiology practices and for-profit MR imaging facilities.

To survive in this highly competitive environment, academic radiology centers need to develop sophisticated marketing strategies to maintain referrals and revenues, according to John A. Pezzullo, M.D., from Brown University Medical School in Providence, R.I.

Speaking at a scientific paper session on health services, policy and research at RSNA 2004, Dr. Pezzullo described an effective marketing strategy adopted by his academic practice that employs 50 radiologists working in four hospitals.

“Fourteen years ago in the state of Rhode Island, there were 12 magnets (MR imaging machines) serving a population of one million people, most split between hospital and private-practice groups,” Dr. Pezzullo said. “Currently, there are 49 magnets in our state with the same population. Most of those are divided among for-profit imaging centers and non-radiologists. The impact is twofold—potential large losses in outpatient revenue and increased marketplace competition.”

A number of factors are driving increased competition, he noted, such as higher reimbursement for MR and CT services compared with other imaging modalities, direct marketing

by equipment manufacturers and an influx of for-profit imaging companies that have their own marketing departments.

“In order to effectively compete in this market, we developed an overall marketing strategy,” he said. The practice hired an external marketing consultant, created an internal marketing department and developed strategies of direct-to-patient and direct-to-physician marketing.

The marketing consultant performed a market analysis of several factors including patient and physician demographics, the location of competitors and patterns of referral. The consultant used focus groups of referring physicians to determine the reasons why physicians chose one provider over another.

“We then developed a comprehensive marketing plan to increase name recognition and to educate the consumer, both physicians and patients,” Dr. Pezzullo explained. The practice hired four individuals who work in the in-house marketing department and serve as liaisons between the referring community and the practice.

As part of a direct-to-patients marketing strategy, the practice developed a new logo and slogan, placed ads on billboards and in local newspapers and magazines, created brochures available in the office that described the prac-



John A. Pezzullo, M.D.
Brown University Medical School,
Providence, R.I.

tice’s services and developed a Web site.

As part of the direct-to-physicians effort, the practice held radiology case-review breakfasts for referring physicians once a week and one-on-one lunches with referring physicians three or four times a week, gave continuing medical education lectures and developed a promotion package for physicians with an ordering form, biographies of physicians in the practice and information about services.

“The physician lunches were key to the strategy because they allowed us to develop loyalty in our relationship with the local medical community,” he said. “As a result of the marketing effort, we had a dramatic increase in our volume of imaging studies between 2001 and 2004.”

Continued on page 13

The physician lunches were key to the strategy because they allowed us to develop loyalty in our relationship with the local medical community.

John A. Pezzullo, M.D.

Taking Care of Your Financial Health

Estate Planning for Physicians

PART 3 OF 3

IN THE FIRST TWO PARTS of this series, two experts discussed ways you can plan for the financial future of your loved ones using stocks, pension plans, wills and trusts. This third and final part of our series on estate planning focuses on how insurance and planned giving benefit you, your loved ones and the work of charitable organizations you support.

What would happen to your family if you died? How would your spouse and children make up for the loss of income? What would happen to your medical practice? “People buy life insurance out of a sense of necessity,” according to Alan L. Cates, J.D., the 2004 president of the Chattanooga Bar Association and a shareholder with the firm of Shumacker, Witt, Gaither & Whitaker in Chattanooga, Tenn.

He said people buy life insurance to create an estate, to create a fund of money to pay estate taxes and/or to fund business arrangements.

Life insurance is particularly important for sole practitioners and physicians with young families. They should purchase it as early as possible, according to Brian T. Whitlock, J.D., C.P.A., partner-in-charge of the Wealth Transfer Service Group at Blackman Kallick, a C.P.A. firm in Chicago. He is also the chairman of the Illinois C.P.A. Society.

“My rule of thumb for life insurance is multiply your current annual take-home salary by 10. That is the minimum amount your family will need to recover and support itself after your death, especially if you have

young children and future college expenses,” Whitlock said. “The younger you are, the more life insurance you need.”

Types of Life Insurance

There are two general types of life insurance—term and permanent. Whitlock said term insurance is essentially a

Sometimes a person wants to make a donation, but he or she doesn't have the capital. You can name a charity as the owner and beneficiary. The premium you continue to pay is tax deductible.

Alan L. Cates, J.D.

year-to-year bet with the insurance company as to whether or not you are going to die. It is the cheapest form of life insurance because it does not build financial value. As you age, the cost of the premium increases.

Permanent life

insurance costs more, but it builds value at the end of each year. There are three types of permanent life insurance:

- whole life
- universal life
- universal variable life

Whole life is the most expensive of the three choices, Whitlock said, but it is also the safest. The insurance company invests the money in long-term bonds and guarantees the premium will never increase.

Whitlock said universal life is essentially a term policy with a side fund attached. Funds are invested in short-term, interest-sensitive instruments. Income generated accumulates tax-free and helps defray future premium increases, but premiums are not guaranteed. The risk is on you, rather than on the insurance company.

With universal variable life, side funds are invested in mutual funds. Again, the consumer assumes the risk that premiums may be higher in the future.

Life Insurance and Planned Giving

Whitlock said as your children age and your pension fund increases in value, you may decide that your life insurance is more than you need. If that happens, you have several choices:

- Surrender a permanent life insurance policy and get its cash value.
- Stop paying your premiums, let the insurance lapse and lose the entire value.
- Transfer the life insurance policy to a charity.

“Your policy may be worth much more to a charity than the cash today,” Whitlock said. “If you sell that policy, you’ll have taxable income. But if you donate it to a charity and they sell it, it’s tax free,” he continued.

Cates agreed. “Transferring owner-

ship of your life insurance policy to a charity is a good way to provide ongoing support to a charity you supported during your lifetime. There is also a favorable income tax benefit—the money is not included in your estate, so there is no tax on the proceeds,” he said.

There are also options if you are unsure if your family may need the money. “You can name a charity as a beneficiary and give that charity a certain percentage of the life insurance proceeds,” Cates explained. “Again, there will be no estate taxes for the charity.”

Another option is donating your life insurance policy to a charity on a deferred basis. “Sometimes a person wants to make a donation, but he or she doesn’t have the capital,” said Cates. “You can name a charity as the owner and beneficiary. The premium you continue to pay is tax deductible.”

Charitable Remainder Trust

Cates and Whitlock said there is one more option, called a charitable remainder trust that balances objectives for continued income with your charitable objectives. You can make a substantial capital gift of land, marketable securities or hard assets to a charity and receive an annuity during your lifetime.

You keep a right to the income and



the use of the assets during your life. The remainder goes to the charity of your choice upon your death.

Planned Giving

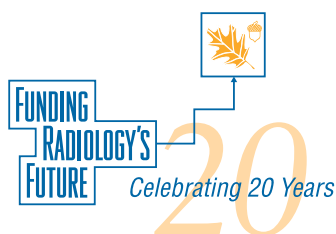
“There are smart ways to make a charitable gift,” Whitlock said. “Try to match your desire to make a gift with the assets in your holdings that offer the best tax advantages to you. In the way you give it, you may be able to keep the benefit. I always recommend you first talk to a planned giving officer about what assets you may be able to donate and then talk to your tax advisor. The conversation you have with the planned giving officer is free. The meter is always running when you talk to your tax advisor,” Whitlock added.

Gifts to the RSNA Research & Education Foundation

Careful financial planning can enable you to provide lifetime income for you and your beneficiaries. It can offer significant tax savings and can also allow you to leave a legacy in the form of a contribution to an organization, such as the RSNA Research & Education Foundation, to benefit the future of radiology.

For more information on donating to the R&E Foundation,

contact Deborah Kroll at (630) 368-3742 or dkroll@rsna.org. □



More Information

IN ADDITION to speaking with an insurance agent, financial planner or tax advisor, several Web sites are available that can provide you with information about life insurance, including tips on how to buy life insurance and how to figure out how much you need:

American Council of Life Insurers
www.acli.com/ACLI/Consumer/Life+Insurance/Default.htm

National Association of Insurance Commissioners
www.naic.org/consumer/life/index.htm

Journal Highlights

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

MR Arthrography of Rotator Interval, Long Head of the Biceps Brachii, and Biceps Pulley of the Shoulder

MR ARTHROGRAPHY appears to be a promising imaging modality for evaluation of the rotator interval through the distention of the capsule and depiction of the associated ligaments.

Because orthopedic surgeons are actively pursuing

Radiology

rotator interval abnormalities with the intention to treat them as part of shoulder instability surgery, rotator cuff repair or as a solitary finding, it is important for radiologists to be aware of this region.

In a review article in the April issue

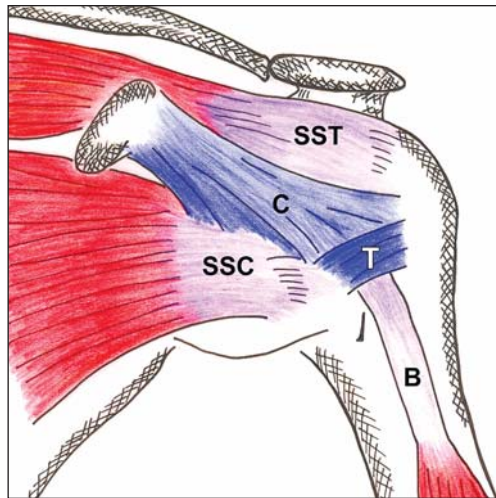


Illustration of rotator interval anatomy.

Frontal view depicts anatomic boundaries of rotator interval. B = long head of biceps brachii tendon, C = coracohumeral ligament, SSC = subscapularis tendon, SST = supraspinatus tendon, T = transverse humeral ligament.

(*Radiology* 2005;235:21-30) © 2005 RSNA. All rights reserved. Printed with permission.

anatomy and biomechanics of the structures that compose the rotator interval, and present examples of pathologic conditions.

of *Radiology* (rsna.org/radiologyjnl), Yoav Morag, M.D., and colleagues from the University of Michigan Medical Center in Ann Arbor discuss the

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

Pitfalls in 16-Detector Row CT of the Coronary Arteries

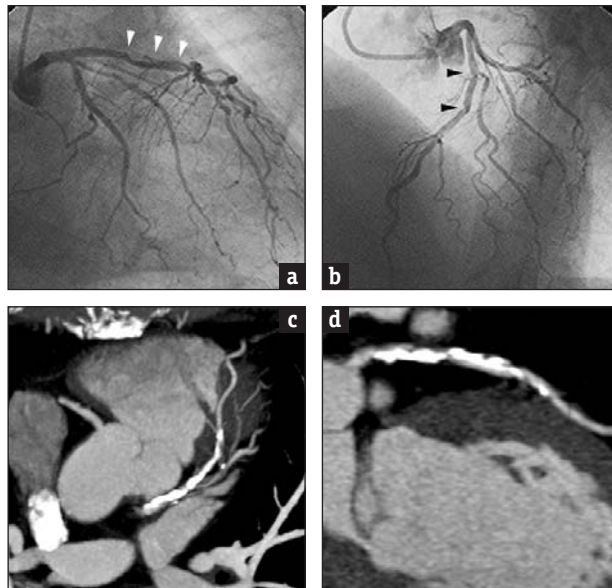
RECENTLY DEVELOPED 16-detector row CT has been introduced as a reliable noninvasive imaging modality for evaluating the coronary arteries.

In most cases, with appropriate premedication that includes β -blockers and nitroglycerin, ideal data sets can be acquired from which to obtain excellent-quality coronary CT angiograms, most often with multiplanar reformation, thin-slab maximum intensity projection, and volume rendering. However, various artifacts

RadioGraphics

associated with data creation and reformation, post-processing methods, and image interpretation can hamper accurate diagnosis.

In a review article in the March-April issue of *RadioGraphics* (rsna.org/radiographics), Tadashi Nakanishi, M.D., and colleagues from Mazda Hospital in Hiroshima, Japan,



Partial volume averaging effect.

(a, b) Coronary catheter angiograms show wall irregularity of the LAD artery (arrowheads in a) without significant stenosis. (c, d) On thin-slab MIP (c) and curved MPR (d) images, the patency of the vessel lumen in the coronary arteries is difficult to appreciate due to diffuse and dense calcification. This blooming effect can lead to the creation of nonassessable segments or to pseudostenosis, depending on interpretation.

(*RadioGraphics* 2005;25:425-440) © 2005 RSNA. All rights reserved. Printed with permission.

describe and illustrate the pitfalls of coronary CT angiography that are attributable to artifacts associated with reformation and postprocessing methods and image interpretation.

Radiology in Public Focus

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

CT Screening for Lung Cancer: 5-Year Prospective Experience

CT SCREENING for lung cancer may not help reduce mortality from lung cancer and may, in fact, do more harm than good because of false-positive results and over-diagnosis.

Stephen J. Swensen, M.D., from the Mayo Clinic in Rochester, Minn., and colleagues prospectively studied 1,520 people at high-risk for lung cancer.

Each agreed to undergo an annual low-dose helical chest CT scan.

After five annual CT scans, the researchers

identified 3,356 uncalcified lung nodules in 1,118 participants (73.6 percent), and 68 lung cancers in 66 participants (4.3 percent).

Forty-eight participants died of all causes since enrollment. The lung cancer mortality rate for the incidence por-

tion of the trial was 1.6/1,000 person-years, which was not significantly different than lung cancer mortality rates in the Mayo Lung Project.

The researchers write: "The ramifications of widespread CT screening for lung cancer are mostly unknown. Our findings answer some questions and raise many others. ... The National Lung Screening Trial (NLST), funded by the

National Cancer Institute, is a randomized control trial that will determine whether there is a disease-specific mortality benefit. Before the NLST is completed, screening

should be performed in the setting of a clinical trial or only after informed consent by a fiduciary without a financial interest."

(*Radiology* 2005;235:259-265)



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



False-Positive Rates for Lung Cancer

Nodule Type	Presence of Prevalence Cancers			Presence of Incidence Cancers*		
	Yes	No	False-Positive Rate (%)	Yes	No	False-Positive Rate (%)
All nodules	31	749	96.0	32	773	96.0
Nodules > 4 mm	31	404	92.9	31	378	92.4

Note: Data are number of nodules, unless indicated otherwise. Calculations are based on one or more nodules detected at prevalence or incidence CT examination only.

* Excludes the three interval cancers.

Two patients with cancer detected at prevalence CT examination had a new primary lung cancer detected on an incidence CT scan and were excluded from incidence analyses.

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Competition Drives Need for Marketing at Outpatient Academic Centers

Continued from page 9

In 2001, the practice's MR and CT volumes were 803 and 1,099 exams per month, respectively, at its outpatient imaging centers. After implementing the marketing strategy, MR volume increased 16 percent to 951 exams per month in 2002 and 30 percent to 1,154 exams per month in 2003, despite the fact that six competing MR sites opened in the area in the same time period. CT volume increased 1.4 percent in 2002 and 14 percent in 2003.

In addition, the number of first-time referrals rose 20 percent in the same period.

"Our conclusion is that marketing may be necessary in outpatient academic centers to allow them to remain profitable in increasingly competitive environments, and physician-to-physician interaction may be a key component of this marketing strategy," Dr. Pezzullo said. □

Marketing Your Outpatient Academic Center

- Hire an in-house marketing staff
- Develop strategies for direct-to-patient marketing
 - Create a new logo and slogan
 - Advertise on billboards and in local newspapers and magazines
 - Create brochures describing your practice's services
 - Develop a Web site
- Develop strategies for direct-to-physicians marketing
 - Hold radiology case-review breakfasts for referring physicians
 - Host one-on-one lunches with referring physicians
 - Give continuing medical education lectures
 - Develop a promotion package for physicians

Product News

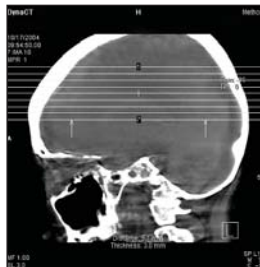
FDA CLEARANCE

Enhancement Allows Angiographic CT

THE Food and Drug Administration has provided 510(k) clearance to Siemens Medical Solutions (www.medical.siemens.com) for DynaCT, an enhancement for C-arm angiography systems that allows soft tissue imaging in the angiography suite.

DynaCT is the first application in the industry that enables clinicians to perform angiographic CT (ACT) with the AXIOM Artis flat panel detector (FD) technology systems.

“The DynaCT enhancement for our AXIOM Artis product line is expected to have a significant impact on clinicians’ ability to diagnose and treat stroke patients when time is of the essence,” said Manfred Fink, vice-president of the Siemens angiography and x-ray division. “The technology will also benefit patients for body-interventional procedures and image-guided tumor therapy. Physicians and hospitals



will be able to obtain CT-like images without the additional need of standard CT systems to be used as interventional tools.”

DynaCT utilizes ACT to obtain images through DYNAVISON-based rotational angiography, which is provided by the AXIOM Artis FD systems. Image acquisition can be achieved with a 10-second C-arm spin. The volume set is then quickly reconstructed on Siemens’ LEONARDO workstation.

NEW PRODUCT

Medical Archiving Solution

Hewlett-Packard (www.hp.com) has released its HP Medical

Archiving Solution that will allow physicians to have quick, immediate retrieval of patient studies.

It was designed for radiology practices faced with the challenges of growing volumes of image data. Regardless of the source—CT, MR, mammography, digital x-rays or PACS—the solution provides the flexibility to manage data distributed across tiers of storage and the ability to rapidly access patient studies.

The HP Medical Archiving Solution also helps hospitals and other healthcare organizations comply with HIPAA requirements guiding the storage, transmission and protection of patient data.



NEW PRODUCTS

Assessment Tool and e-Radiology Solution for Medical-Grade Network

Cisco Systems, Inc. (www.cisco.com) has announced two new additions to its Medical-Grade Network initiative—the Cisco Medical-Grade Network Assessment tool and Cisco e-Radiology solution.

The assessment tool enables healthcare executives to objectively evaluate their network capacity and capabilities against the delivery of their current and future healthcare services and business objectives. The e-radiology solution is a suite of Cisco-powered offerings that combines PACS applications with a converged network to help optimize the transfer, access and storage of medical images and patient data to enhance consultation, time to diagnosis and time to treatment.

“With the help of an intelligent, integrated network, care can be provided anywhere/anytime to help improve patient treatments and increase caregiver productivity,” said Pierre-Paul Allard, vice-president of enterprise marketing for Cisco.

NEW PRODUCT

Essential Foundation for Electronic Health Records

Optio Software (www.optiosoftware.com) has launched the Optio QuickRecord® Suite, a secure, cost-effective way to provide physicians and other caregivers with real-time access to patient information.

The Optio QuickRecord Suite provides a universal hub and Web-enabled access point for all patient documents and information whether they originate as printed documents, online forms or data streams. The system provides seamless integration with all existing healthcare systems, ranging from ADT (Admission Discharge Transfer), lab and radiology to transcription, cardiology, PACS and imaging.

“QuickRecord Suite helps healthcare organizations reduce errors, waste, delays and inefficiencies in clinical and business processes, while improving patient safety and the quality of care,” said Steve Kaye, senior vice-president of marketing and product management for Optio Software.

Program and Grant Announcements

Business Strategies for Radiology Leaders

REGISTER ONLINE at www.rsna.org/education/shortcourses for this three-day, RSNA course designed for radiologists in leadership positions and for radiology business managers.

21 CME credits available

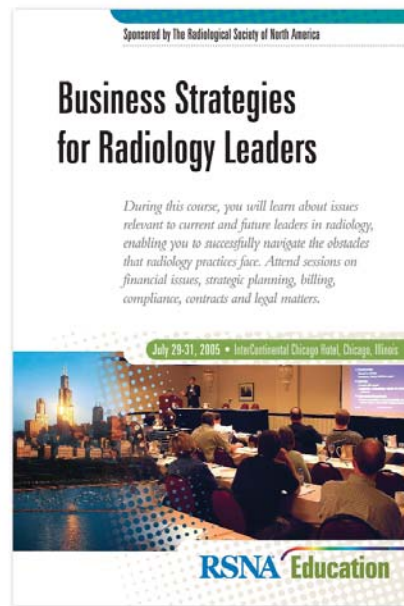
The course will be held July 29–31 at the Hotel InterContinental Chicago.

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

The course, directed by Lawrence R. Muroff, M.D., also explores obstacles facing today's radiology practices—financial issues, strategic planning, billing, compliance, contracts and legal matters—and ways to successfully navigate these challenges.

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



RSNA Outstanding Researcher, Educator Awards

The deadline is June 15, 2005, to submit an application for the **2005 Outstanding Researcher and Outstanding Educator** awards. These awards recognize and honor senior physicians or scientists who have made a career of significant contributions to the field of radiology or radiologic sciences through research and/or education. The awardees will be announced during the opening session of RSNA 2005.

To download nomination forms, go to www.rsna.org/research/foundation/application.html.

Planning for the Filmless Transition

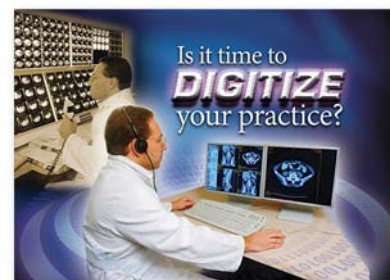
RSNA and the Society for Computer Applications in Radiology (SCAR) are sponsoring this one-day course

6.5 CME credits available

that will be held on June 1 at the Orlando World Center Marriott in Florida. Topics include:

- Changing Expectations
- Workflow Analysis
- Assembling the PACS Team
- Practical Guide to Vendor Selection and PACS Purchase
- Design Considerations for the Filmless Imaging Department
- Survival Guide for Teleradiology and PACS Security
- Developing an Enterprise-wide PACS Solution

For more information, go to www.scarnet.net/2005RadiologyCourse.html.



RSNA | Education

SCAR

IGI Supplemental Awards

The Image-Guided Interventions (IGI) Branch of the Cancer Imaging Program (CIP) at the National Cancer Institute (NCI) has teamed up with the NCI Cancer Centers Program and Specialized Programs of Research Excellence (SPOREs) to offer IGI supplemental awards aimed at stimulating translational research in oncologic image-guided interventions at the Cancer Centers and

SPOREs. The awards are available to cancer center investigators and SPORE directors, as well as their co-investigators and clinical and basic scientists in other departments.

The deadline is May 1, 2005, to submit a letter of intent. Applications are due June 1, 2005.

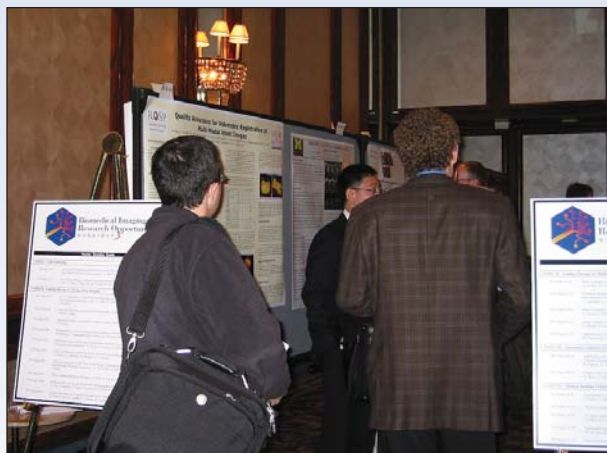
For more information, contact: Keyvan Farahani, Ph.D., at farahani@nih.gov.

Methods in Clinical Cancer Research

This limited-attendance workshop provides the essentials of effective clinical trial design. Sponsored by the American Society of Clinical Oncology and the American Association for Cancer Research, the workshop is designed for clinical fellows and junior faculty clinical researchers in all subspecialties including radiology and radiation and surgical oncology. The workshop will be held July 30-August 5 at the Vail Marriott Mountain Resort in Vail, Colorado.

For more information, go to www.vailworkshop.org.

31.5 CME credits available



BIROW 3

About 150 people attended the third Biomedical Imaging Research and Opportunities Workshop (BIROW 3) held last month in Bethesda, Md. BIROW is designed to identify and explore new opportunities for basic science research and engineering development in biomedical imaging, as well as

related diagnosis and therapy. Topics of the third workshop included cell trafficking, informatics solutions in imaging, guiding therapy by multimodality and medical imaging technology. Additional information about the workshops is available at www.birow.org.

Working For You

R&E Foundation Awards by Institution

Since 1998, the RSNA Research & Education Foundation has awarded more than \$11.7 million to 65 institutions in the United States. The 10 institutions receiving the largest awards are:

Institution	Department(s)	Total Awards 1998 – 2004
Washington University	Mallinckrodt Institute of Radiology	\$1,033,000
University of Texas MD Anderson Cancer Center	Radiology, Radiation Oncology, Nuclear Medicine	\$835,000
Columbia University	Radiology, Radiation Oncology	\$588,000
Thomas Jefferson University	Radiology, Radiation Oncology	\$575,000
University of Pennsylvania	Radiology, Radiation Oncology	\$540,000
University of Michigan Medical School	Radiology, Radiation Oncology	\$525,000
Massachusetts General Hospital	Radiology, Radiation Oncology	\$505,000
Stanford University	Radiology, Radiation Oncology	\$505,000
University of California, San Francisco	Radiology, Radiation Oncology	\$484,000
University of Virginia	Radiology	\$430,000

Educating Radiologists in Emerging Nations

One goal of the RSNA Committee on International Relations and Education (CIRE) is to help enhance radiology education in emerging nations. In 2004, CIRE provided 39 complimentary subscriptions to *Radiology* and *RadioGraphics* to institutions in 20 countries.

In addition, education programs captured at RSNA 2002 were distributed to 39 radiology institutions. For information about this and other international programs, send an e-mail to cire@rsna.org.



(seated from left) Karen Hamm, Betty L. Rohr, director, and Andrea Perr. (standing from left) Barbara Liby, Kelly Bennett, Annette Savage and Beatrice Carcelli.

RSNA Program Services Department

UNDER THE LEADERSHIP of Director Betty L. Rohr, the Program Services department

works with physician committees to develop the scientific program for the RSNA annual meeting. This includes refresher courses, scientific papers, scientific posters, education exhibits, special focus sessions and plenary sessions. Program Ser-

Working for you DEPARTMENT PROFILE

VICES is one of the departments responsible for meeting the strict requirements of the Accreditation

Council for Continuing Medical Education.

The department reports to RSNA Assistant Executive Director Linda B. Bresolin, Ph.D., M.B.A., C.A.E.

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.

RSNA Research Scholar Sets New Standard of GU Care

NOTHING CAN strike fear in a patient faster than discovering blood in their urine. Termed hematuria, it is one of the most common reasons for a visit to the urologist. It can signal a problem as benign as a bladder infection to an illness as deadly as cancer.

Historically, a workup for hematuria has involved subjecting patients to a series of costly and time-consuming imaging tests with varying degrees of success. These tests would include plain film radiography, ultrasound, CT and excretory urography (EU), which until recently was considered by many urologists to be the gold standard. But while EU proved useful in evaluating for renal and ureteral stones, it provided a cursory examination of the renal parenchyma and bladder.

In recent years, radiologists have sought a more comprehensive screening test for urinary tract disease. Significant progress has been made by Elaine Caoili, M.D., an assistant professor of radiology, Richard H. Cohan, M.D., a professor of radiology, and a team of radiologists and urologists at the University of Michigan Health Systems, who have developed an innovative examination for early detection of renal and urothelial disease—multidetector CT urography (MDCTU).

“Our research was aimed at refining MDCTU to make it a better and more comprehensive exam for detecting urothelial cancer and other urinary tract abnormalities,” she said.

Armed with an Agfa Corporation/RSNA Research Scholar grant in 2001, Dr. Caoili set her sights on defining and implementing new CT technology that enables radiologists to generate high-

resolution images of the *entire* renal collecting system in a single helical run. MDCTU lends itself to the creation of detailed 3D urograms which, when combined with axial data, provide a comprehensive examination of the entire genitourinary tract.

“Dr. Caoili has developed a technique which has combined the qualities of CT and EU in a way that exceeds the value of either test alone,” said N. Reed Dunnick, M.D., Fred Jenner Hodges Professor and chair of the Department of Radiology at the University of Michigan.

Dr. Caoili’s research successfully undertook three objectives:

- 1 Compare MDCTU to EU in the evaluation of patients with hematuria.
- 2 Establish optimal techniques for the MDCTU.
- 3 Compare MDCTU to CT scout radiographs to determine the best CT method for displaying the collecting system anatomy.

The goal was to improve the ability of CT to detect urothelial abnormalities

My mentors... have taught me that to be the best clinician, the best doctor, the best radiologist you can possibly be means that you are always asking research questions and using your research to be a better clinician.

Elaine Caoili, M.D.

yet provide patients with a single comprehensive examination.

“Urologists cannot evaluate the ureters as easily as they can the bladder with endoscopy and so we knew that MDCTU could play a critical role in detecting abnormalities in the renal collecting system and ureters,” said Dr.



Elaine Caoili, M.D.
University of Michigan Health Systems

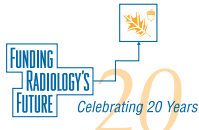
Caoili. “This technology allows us to view the whole urinary tract system non-invasively, and we have been able to improve the exam to such a degree that we can detect tumors smaller than five millimeters in size. It’s really quite remarkable given that these tumors are not easily detected by other exams.”

Her preliminary findings were presented at several RSNA annual meetings.

“MDCTU has made EU obsolete. Not only can small lesions be detected, but MDCTU provides a valuable roadmap to guide surgical intervention,” said Dr. Dunnick.

Dr. Caoili is excited by the explosive growth and potential for MDCTU and plans to continue her work in this area. Currently she is developing different imaging algorithms that will further refine the MDCTU technique by reducing the number of images needed for each exam. She is

Continued on page 21



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 **January 29 – February 28, 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.

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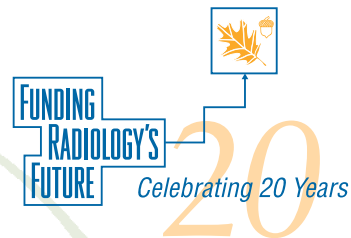
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RSNA Research Scholar Sets New Standard of GU Care

Continued from page 19

also looking into computer-aided detection in an effort to find subtle tumors.

“My research efforts have been highly rewarding and have taught me important lessons,” said Dr. Caoili, who credits the RSNA Research Scholar grant with helping her to become a better researcher by allowing her to pursue work on MDCTU while also obtaining a master’s degree in statistical analysis and clinical research.

She dreams of being a leader in the field as a clinician, researcher and edu-

cator. Although it is still relatively early in her career, Dr. Caoili’s work has shown great promise as proven by her numerous honors, including the New Investigator Award from the American Institute of Ultrasound in Medicine.

“My mentors, particularly Richard Cohan, have taught me that to be the best clinician, the best doctor, the best radiologist you can possibly be means that you are always asking research questions and using your research to be a better clinician,” she said.

Dr. Caoili received her undergradu-

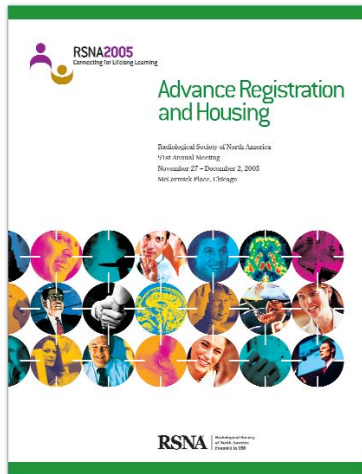
ate and medical degrees from the University of Michigan in Ann Arbor where she joined the staff in 1999. She completed an internship in internal medicine at the University of Pennsylvania and her radiology residency at the University of California, San Francisco. She also completed an abdominal imaging fellowship at Duke University Medical Center. □

News about RSNA 2005

Advance Registration and Housing Opens April 25

RSNA 2005 advance registration and housing opens April 25 for RSNA and AAPM members. General registration and housing opens May 23.

Accessing a Brochure



The Advance Registration and Housing brochure will be available in electronic format only.

Go to RSNA.org/register and click on the PDF file.

International Delegates

Invitation Letters

Personalized invitation letters are available at RSNA.org listed under both Annual Meeting and International.

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:

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

How to Register

There are four ways to register for the RSNA 2005:

1 Internet

Go to www.rsna.org/register
Use your member ID#
from the *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
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\$570	\$670	Hospital Executive, 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 www.rsna.org, e-mail reginfo@rsna.org, or call (800) 381-6660 x7862.

Important Dates for RSNA 2005

April 15	Deadline for abstract submission
April 25	Registration and housing opens for RSNA and AAPM members
May 23	General registration and housing opens
June 20	Course enrollment opens
Nov. 11	Final advance registration deadline
Nov. 27–Dec. 2	RSNA 91st Scientific Assembly and Annual Meeting

CME Update: Earn up to 80.5 AMA PRA category 1 CME credits at RSNA 2005

RSNA2005
Connecting for Lifelong Learning

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

Preliminary Program Grid

	9:00 a.m.	10:00 a.m.	11:00 a.m.	12:00 p.m.	1:00 p.m.	2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 p.m.
Sat 11/26					AAPM/RSNA Physics Tutorial for Residents 12:00-2:00 PS10		AAPM/RSNA Physics Tutorial on Equipment Selection 2:15-5:15 PS20			
		Protecting Assets from Creditor Claims, Including Malpractice Claims* 10:00-12:00 PS01		Lunch Break 12:00-1:00		Effective Real Estate Investment Strategies* 1:00-5:00 PS11				
						NIH Grantsmanship Workshop* 1:00-5:00 PS12				
Sun 11/27	Opening Session and President's Address 8:30-10:15 PS30		Scientific Sessions 10:45-12:15 SSA		Lunch & Poster Sessions 12:15-2:00		Refresher Courses 2:00-3:30 RC100		Image Interpretation Panel 4:00-5:45 PS40	
		Technical Exhibits 10:00-5:00								
Mon 11/28	Refresher Courses 8:30-10:00 RC200		Scientific Sessions 10:30-12:00 SSC			New Horizons Lecture** 1:30-2:45 PS50		Scientific Sessions 3:00-4:00 SSE		Focus Sessions 4:30-6:00 SFF
	Case-Based Review: NR 8:30-10:00 RC960		Case-Based Review: NR 10:30-12:00 RC960			Case-Based Review: NR 1:30-3:00 RC960		Case-Based Review: NR 3:30-5:45 RC960		
	Case-Based Review: RO 8:30-10:00 RC950		Case-Based Review: RO 10:30-12:00 RC950			Case-Based Review: RO 1:30-3:00 RC950		Case-Based Review: RO 3:30-6:00 RC950		
	Associated Sciences Refresher Courses 8:30-12:00				Lunch & Poster Sessions 12:00-1:30	Associated Sciences Refresher Courses 1:30-5:00				
						Physics Symposium 1:30-3:30 PS52		Physics Symposium 3:45-5:45 PS52		
						AAPM/RSNA Basic Physics Lecture for the RT 1:30-2:45 PS51				
	Oncology: Image-Guided Intervention Program 8:30-12:00					Oncology: Image-Guided Intervention Program 1:30-6:00				
	Technical Exhibits 10:00-5:00									
Tue 11/29	Refresher Courses 8:30-10:00 RC300		Scientific Sessions 10:30-12:00 SSG			Annual Oration in Diagnostic Radiology** 1:30-2:45 PS60		Scientific Sessions 3:00-4:00 SSJ		Refresher Courses 4:30-6:00 RC400
	Case-Based Review IV 8:30-10:00 RC970		Case-Based Review IV 10:30-12:00 RC970			Case-Based Review IV 1:30-3:00 RC970		Case-Based Review IV 3:30-6:00 RC970		
	Associated Sciences Refresher Courses 8:30-12:00				Lunch & Poster Sessions 12:00-1:30	Associated Sciences Refresher Courses 1:30-5:00				
	Essentials Course 8:30-10:00 RC991		Essentials Course 10:30-12:00 RC992			Essentials Course 1:00-2:30 RC993		Essentials Course 3:00-4:30 RC994		
	Oncology: Image-Guided Intervention Program 8:30-12:00					Oncology: Image-Guided Intervention Program 1:30-6:00				
	Technical Exhibits 10:00-5:00									
Wed 11/30	Refresher Courses 8:30-10:00 RC500		Scientific Sessions 10:30-12:00 SSK			Annual Oration in Radiation Oncology** 1:30-2:45 PS70		Scientific Sessions 3:00-4:00 SSM		Oncodiagnosis Panel and Focus Sessions 4:30-6:00 SFN
	Case-Based Review PED 8:30-10:00 RC980		Case-Based Review PED 10:30-12:00 RC980			Case-Based Review PED 1:30-3:00 RC980		Case-Based Review PED 3:30-5:00 RC980		
	Associated Sciences Symposium 8:30-12:00 ASK				Lunch & Poster Sessions 12:00-1:30					
	Essentials Course 8:30-10:00 RC995		Essentials Course 10:30-12:00 RC996			Essentials Course 1:00-2:30 RC997		Essentials Course 3:00-4:30 RC998		
	Oncology: Image-Guided Intervention Program 8:30-12:00					Oncology: Image-Guided Intervention Program 1:30-6:00				
	Technical Exhibits 10:00-5:00									
Thu 12/1	Refresher Courses 8:30-10:00 RC600		Scientific Sessions 10:30-12:00 SSQ			RSNA/AAPM Symposium** 1:30-2:45 PS80		Focus Sessions 3:00-4:00 SFS		Refresher Courses 4:30-6:00 RC700
	Oncology: Image-Guided Intervention Program 8:30-12:00				Lunch & Poster Sessions 12:00-1:30	Oncology: Image-Guided Intervention Program 1:30-6:00				
	Technical Exhibits 10:00-2:00									
Fri 12/2	Refresher Courses 8:30-10:00 RC800		Scientific Sessions 10:30-12:00 SST		Lunch & Visit Education Exhibits 12:00-12:45		Image Symposium 12:45-3:15 PS90			
	Oncology: Image-Guided Intervention Program 8:30-12:00									

* An additional fee is charged for this course. ** Awards/Ceremonies to open Plenary Session (1:30-1:45).

RSNA 2005 Exhibitor News

Exhibitor Prospectus

THE RSNA 2005 Exhibitor Prospectus was mailed in late March. RSNA awards space assignment priority points to its exhibitors. It is beneficial to submit the exhibit space application quickly to earn the most priority points possible and to ensure the best possible exhibit booth position.

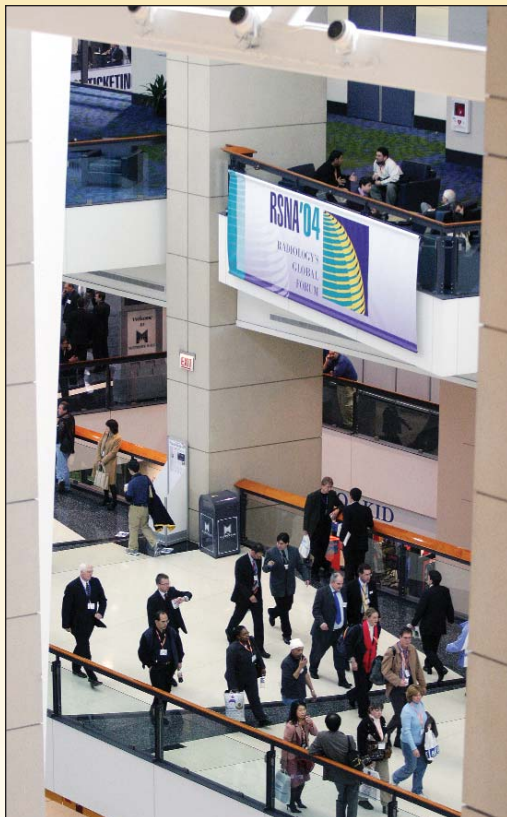
To achieve the maximum available space and assignment points, your completed application must have been received by RSNA by April 11, 2005. The first-round space assignment deadline is May 6.



Advertising at RSNA 2005

Many opportunities exist for companies to promote their exhibit at RSNA 2005—the world's largest annual medical meeting. For more information, go to www.rsna.org/advertising/index.html or contact:

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jdrew@rsna.org
- **Judy Kapicak**
Senior Advertising Manager
(630) 571-7818
jkapicak@rsna.org



June Exhibitor Planning Meeting

Booth assignments will be released on June 28 at the Exhibitor Planning Meeting and Luncheon. All exhibitors for RSNA 2005 are invited to attend at Rosewood Restaurant and Banquets near Chicago's O'Hare International Airport.

Important Exhibitor Dates for RSNA 2005

May 6	First-round space assignment deadline
June 28	Exhibitor Planning/Booth Assignment Meeting
July 5	Technical Exhibitor Service Kit available online
Nov. 4	Exhibitor advance badge request 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

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






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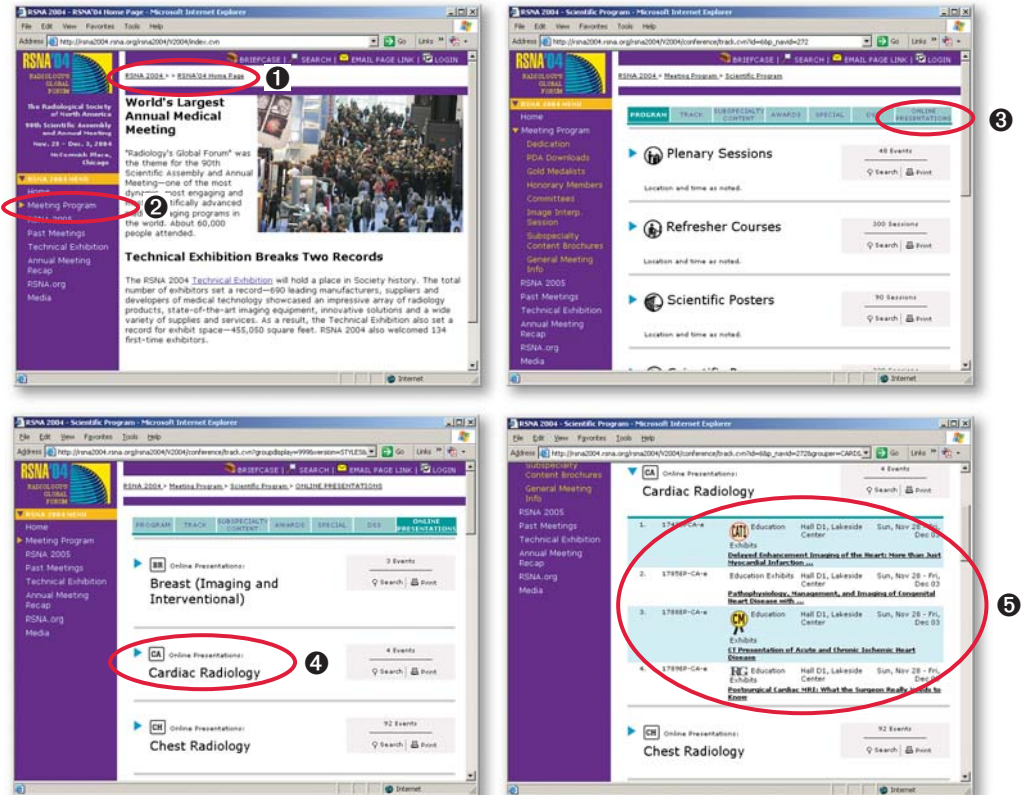
Online Scientific Posters and Education Exhibits

ABOUT 500 scientific posters and education exhibits from RSNA 2004 are available online. Go to rsna2004.rsna.org ① and click on Meeting Program ② in the left-hand column.

Click on the Online Presentations tab ③, then on a specialty, such as Cardiac Radiology ④ and then click on the presentation you would like to view ⑤.

Various icons indicate special honors:

- Magna Cum Laude 
- Cum Laude 
- Certificate of Merit 
- Excellence in Design 
- Selected for *RadioGraphics* 



OTHER WEB NEWS:

New Site Explains FDA's Regulation of Nanotechnology

FDA's Office of Science and Health Coordination has created a Web site (www.fda.gov/nanotechnology) devoted to the agency's regulation of products that utilize nanotechnology, an emerging field defined as research and development at the atomic,

molecular or macromolecular level. The site links to numerous nanotechnology resources and offers slide shows and other presentations on the topic.



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Medical Meetings

May – June 2005

MAY 3-7

Society for Pediatric Radiology (SPR), 48th Annual Meeting, Sheraton New Orleans, New Orleans • meeting.pedrad.org

MAY 4-7

Association of University Radiologists (AUR), 53rd Annual Meeting, Fairmont Queen Elizabeth Hotel, Montreal, Quebec • www.aur.org

MAY 4-7

Deutscher Röntgenkongress 2005, 86th German Radiology Congress, Berlin, Germany • www.drg.de

MAY 6-8

Section for Magnetic Resonance Technologists (SMRT), 14th Annual Meeting, Miami Beach Convention Center • www.ismrm.org/smrt

MAY 7-13

International Society for Magnetic Resonance in Medicine (ISMIRM), 13th Scientific Meeting and Exhibition, Miami Beach Convention Center • www.ismrm.org

MAY 11-14

Japanese Society of Angiography & Interventional Radiology, 34th Annual Meeting and 9th International Symposium on Interventional Radiology & New Vascular Imaging, Awaji Yumebutai International Conference Center, Hyogo, Japan • www.isir-jsair2005.jp

MAY 15-20

American Roentgen Ray Society (ARRS), 105th Annual Meeting, New Orleans Hilton Riverside Hotel and Towers, New Orleans • www.rrs.org

MAY 21-26

American College of Medical Physics (ACMP), Annual Meeting, Wyndham Orlando Resort, Orlando • www.acmp.org

MAY 21-27

American Society of Neuroradiology (ASNR), 43rd Annual Meeting, Metro Toronto Convention Centre, Toronto, Ontario • www.asnr.org

MAY 25-28

Society of Breast Imaging (SBI), 7th Postgraduate Course, Vancouver Convention and Exhibition Centre, Vancouver, British Columbia • www.sbi-online.org

MAY 25-28

56th Nordic Radiological Congress, 17th Nordic Congress of Radiographers, 33rd Annual Meeting of Nordic Society of Neuroradiology, Radisson SAS Scandinavia Hotel, Oslo, Norway • www.congrex.no/radio2005

MAY 28-31

European Society of Gastrointestinal and Abdominal Radiology (ESGAR), 16th Annual Meeting and Postgraduate Course, Palazzo dei Congressi, Florence, Italy • www.esgar.org

JUNE 1-3

American Brachytherapy Society (ABS), Annual Meeting, Hyatt Regency, San Francisco • www.americanbrachytherapy.org

JUNE 1

Planning for the Filmless Transition, RSNA/Society for Computer Applications in Radiology (SCAR), Orlando World Center Marriott, Orlando, Fla. • www.scarnet.org

JUNE 2-5

SCAR Annual Meeting, Orlando World Center Marriott, Orlando, Fla. • www.scarnet.org

JUNE 2-5

European Society of Medical Oncology (ESMO), Scientific & Educational Conference, Novotel Congress Center, Budapest, Hungary • www.esmo.org

JUNE 5-8

Radiology Business Management Association (RBMA), 2005 Radiology Summit, Paris Las Vegas • www.rbma.org

JUNE 6-8

UK Radiological Congress 2005, G-MEX Manchester International Convention Center, Manchester, United Kingdom • www.ukrc.org.uk

JULY 29-31

Business Strategies for Radiology Leaders, RSNA, Hotel Inter-Continental in Chicago • www.rsna.org/education/offering/index.html

NOVEMBER 27-DECEMBER 2

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

RSNANews

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