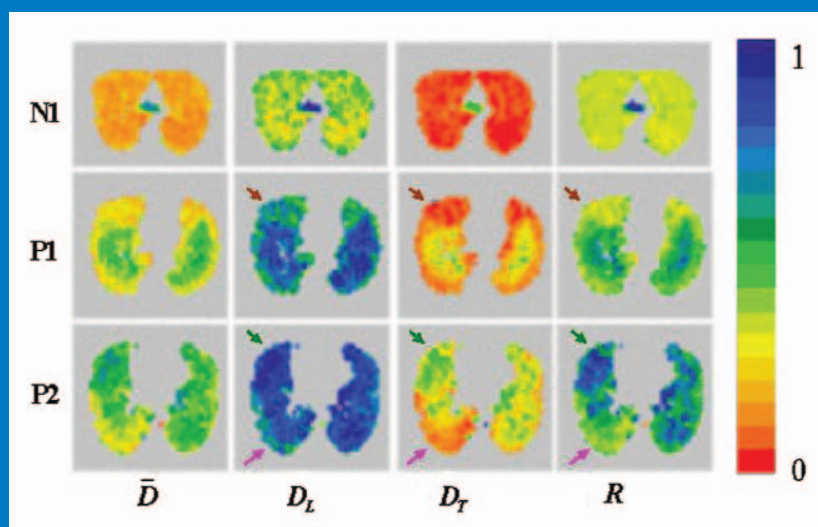


Helium Imaging Improves Diagnosis of Pulmonary Emphysema



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- NCI Lung Screening Trial Nearing Launch
- Limiting Work Hours for Residents
- *RadiologyInfo*™ Ready for Prime Time
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RSNA News

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American Board of Radiology

Robert R. Hattery, M.D., has assumed the post of executive director of the American Board of Radiology (ABR). Dr. Hattery is an RSNA Board Member and immediate past president of ABR. **N. Reed Dunnick, M.D.**, is the newly appointed ABR trustee.



Robert R. Hattery, M.D.

Fellers Wins Shapiro Award

On June 26, RSNA Executive Director **Dave Fellers, C.A.E.**, received the 2002 Samuel B. Shapiro Award, the highest honor from the Association Forum of Chicagoland, the "association of associations" for more than 1,500 business, charitable, civic and professional organizations headquartered in the Chicago area. The Shapiro Award is presented annually to a chief executive officer member for outstanding service and accomplishments in association management.



Dave Fellers, C.A.E.

Royal Belgian Radiological Society

Lieven L. Mortelmans, M.D., has been elected vice-president of the Royal Belgian Radiological Society. This position makes him president-elect for 2003. He will organize the society's annual symposium, which will be held in Antwerp on November 8, 2003. Dr. Mortelmans is chief of medical imaging at Middelheim General Hospital in Antwerp and is a clinical teacher in radiology at the University of Antwerp. He has been a corresponding member of RSNA since 1989.



Lieven L. Mortelmans, M.D.

Bradley Joins UCSD

William G. Bradley Jr., M.D., Ph.D., one of the world's leading experts in MR imaging, has been appointed chairman of the Department of Radiology at the University of California, San Diego School of Medicine. Dr. Bradley is the former director of MRI and Radiology Research at Long Beach Memorial Medical Center and served as professor of radiological sciences at the University of California, Irvine. Dr. Bradley is the chairman of the Fund Development Committee for the RSNA Research and Education Foundation.



William G. Bradley Jr., M.D., Ph.D.

UCLA Radiology Residency Program

Robert Suh, M.D., is the new Residency Program Director for the UCLA Department of Radiological Sciences. Dr. Suh is an assistant professor in thoracic imaging. He replaces **Richard Gold, M.D.**, who stepped down in March after 11 years of dedicated service.

Gooding Receives Distinguished Alumni Award

Gretchen A.W. Gooding, M.D., professor and vice-chairman in the Department of Radiology at the University of California, San Francisco, and chief of the Radiology Service Department at the Veteran's Administration Medical Center, has received the 2001 Distinguished Alumni Award from Ohio State University Medical School. Her husband, **Charles Gooding, M.D.**, a professor of radiology and pediatrics at UCSF, won the same award 15 years ago, making them the only married couple to have received this prestigious recognition.



Gretchen A.W. Gooding, M.D.

Clarification:

In the April issue of *RSNA News*, "The Web of Radiology" discusses accessing radiology-related information via the Internet. While HighWire Press™ provides links to other journals, access to the journal articles may or may not be free of charge. RSNA members and subscribers receive free online access to *Radiology* and *RadioGraphics*.

In addition, the list of "Top 10 Articles Accessed in 2001" and the "Top 5 Most Frequently Cited Articles" refer only to *Radiology Online* articles hosted on HighWire.

RSNA News

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.

Disaster Preparedness for Radiology Professionals: Response to Radiological Terrorism

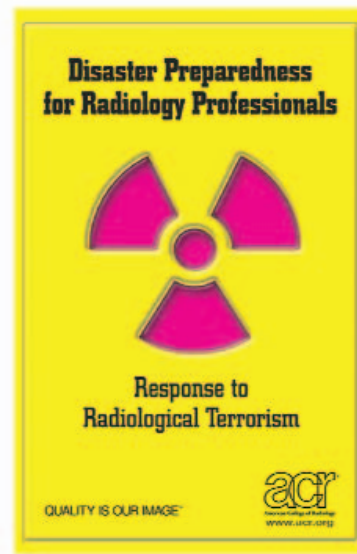
A radiation disaster is a possibility for which radiology must be prepared.

In the event of a terrorist attack involving radiation, radiologists, radiation oncologists and medical physicists will play a vital role as responders and as sources of accurate information for patients, the public and the medical community.

This primer is provided as a quick reference in the event of a radiation disaster. It summarizes current information on preparing for a radiation emergency, handling contaminated persons, dose assessment and radiation exposure health

effects. It also includes information on radiological findings related to agents of biological and chemical terrorism.

The primer and ACR's Disaster Preparedness Web page are "living documents" and will be updated as new information is available. Please check the ACR Web page at www.acr.org regularly to access the most recent versions.



NIH Awards to Medical Schools

During fiscal year 2001, the National Institutes of Health provided nearly 25,000 extramural awards totaling nearly \$8.7 billion. These awards include research grants, training grants, fellowships and R&D contracts. The top 10 medical schools receiving awards are:

RANK	MEDICAL SCHOOL	NUMBER	AMOUNT
1	Johns Hopkins University	865	\$334,145,551
2	University of Pennsylvania	918	\$326,986,194
3	UCSF	769	\$320,794,924
4	Washington University	683	\$289,518,114
5	University of Washington	646	\$234,509,358
6	Yale University	637	\$227,067,945
7	Baylor	498	\$221,611,093
8	University of Michigan	603	\$213,018,237
9	UCLA	584	\$206,194,554
10	Duke University	519	\$203,561,371

For a more comprehensive listing, see grants1.nih.gov/grants/award/medschc.htm.

CVI Courses on InteractED

Twenty cardiovascular imaging (CVI) programs are available through RSNA's InteractED for continuing medical education (CME) credit. These programs were produced from the CVI course held last year in San Diego. The course was a joint project of RSNA, the American College of Radiology and the American Roentgen Ray Society.

To date, RSNA members have earned about 1,300 CME certificates from these online CVI programs.

Access to InteractED is free for RSNA members. Nonmembers must pay \$15 per program for seven-day access.

www.rsna.org/education/interactive/index.html



Camp RSNA

Childcare is available at RSNA 2002 through ACCENT on Children's Arrangements, Inc., a nationally recognized professional childcare company organized to provide onsite children's activities in a nurturing, safe, educational environment. Camp RSNA will be located at McCormick Place in the South Building.



For more information, visit www.accentoca.com, or contact ACCENT at (504) 524-0188 or registration@accentoca.com.

To make your arrangements, download and print a Camp RSNA registration form from www.rsna.org/rsna/advanceregistration.

Camp RSNA Hours

Sunday – Thursday (Dec. 1–5) 7:30 a.m. – 6:00 p.m.
Friday (Dec. 6) 7:30 a.m. – 3:00 p.m.

Rates (prior to November 22, 2002)

Infants and Toddlers (6–35 months) Full day: \$85 Half day: \$50
Children (3–12 years) Full day: \$65 Half day: \$40
A half-day session is 7:30 a.m. – 12:30 p.m. and 12:30 p.m. – 6:00 p.m.

Special Friday Rates

Infants and toddlers: \$70; Children 3–12 years: \$55
Register Early! After November 22, 2002, rates will increase by \$10.

Physicians for Responsible Negotiation

The American Medical Association (AMA) will no longer provide loans to the national labor organization it created in 1999. Physicians for Responsible Negotiation (PRN) is the only national independent labor organization created specifically for physicians. In April, the AMA Board of Trustees voted to discontinue funding beyond loans already approved.

PRN President Mark L. Fox, M.D., an otolaryngologist from New York, said, "Our priority is to save this landmark effort and pre-serve this organizing option for physicians nationwide."

The group is considering its funding options. Meanwhile during the AMA's House of Delegates meeting in June, delegates asked the board to consider a request from PRN to provide enough money to conclude pending cases before the National Labor Relations Board.

To date, PRN has more than 200 individual and organizational sustaining members representing more than 70,000 physicians.

PRN currently represents a group of physicians in Michigan and is in contract negotiations on behalf of a group of physicians in Texas.

Patient Education Using BERT Approach

Congratulations to RSNA for its three-year pledge to patient education. (May issue of *RSNA News*.) Patient education in radiology should start with an understandable explanation of the radiation they receive.

Radiologists contribute more human-made radiation to the public than the total from all other sources. Background (or natural) radiation is much larger on average than medical radiation.

Therefore, I believe that radiologists should provide reasonable information to all patients about the radiation they receive from a diagnostic procedure. I strongly recommend the use of the BERT approach for this explanation.

BERT is an acronym for Background Equivalent Radiation Time. The amount of radiation from an x-ray or a nuclear medicine study is compared to the time for the patient to receive the same amount of radiation from nature. In the United States, the background varies, by a factor of three, from a low in the Gulf states to a high in the mountain states.

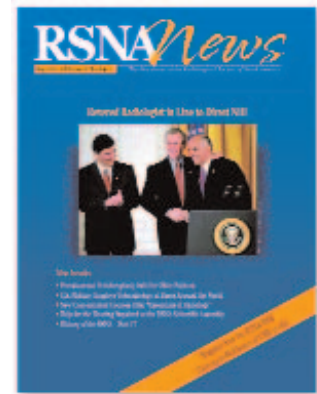
The BERT approach is not a scientific explanation. It is intended to remove anxiety about radiation. The explanation is intended to be an understandable explanation.

I suggest that RSNA have a committee of physics members who work in diagnostic radiology construct a table of typical BERT values for the most common radiographic projections, based on the average U.S. background dose rate. The time (BERT) values would be given in a leaflet that could be made available to all radiology patients.

BERT is not a radiation quantity or unit—it is a simple way to explain radiation to patients. It is easy to understand, it does not mention risk and it educates the patient.

John R. Cameron, Ph.D.

Professor Emeritus, Departments of Medical Physics
Radiology and Physics
University of Wisconsin-Madison



Editor's Response:

Dr. Cameron will be pleased to know that the committee he recommends exists in the form of a group of advisors whose work is being used to revise the RSNA patient education Web site, RadiologyInfo™. The new site is available at www.radiologyinfo.org/content/safety/rad_safety.htm.

Helium Imaging Improves Diagnosis of Pulmonary Emphysema

A major advance in lung imaging may add momentum to the long struggle in the evaluation and treatment of emphysema and other chronic lung diseases.

Helium-3 diffusion magnetic resonance imaging (3He diffusion MRI) is an experimental technique that uses nonradioactive, hyperpolarized helium. The new imaging examination is used to diagnose emphysema by measuring how far the gas moves inside even the smallest airways of the lung. Dimitriy A. Yablonskiy, Ph.D., a 2000 RSNA Research and Education (R&E) Foundation Research Scholar, says CT, in this evaluation, falls short because it measures only lung density.

"CT doesn't give you information at the level of the alveoli, which is the basic structure of the lung. Nor does it distinguish between ventilated and unventilated areas of the lungs. CT can tell you about the decrease in lung tissue density, but by itself, cannot tell you about the microstructure of the lung," says Dr. Yablonskiy, a professor of physics and an assistant professor of radiology at the Mallinckrodt Institute of Radiology at Washington University School of Medicine in St. Louis.

About five years ago, scientists suggested the idea of having patients inhale hyperpolarized helium while being imaged by MR, and then measuring the distance helium atoms traveled inside the lung. "Helium is much less dense than water. Because

the signals that we measure with MRI are proportional to the [spin] density of the substance, we must hyperpolarize the nuclear spins of the gas prior to imaging."

Dr. Yablonskiy says the gas is mixed with a small amount of rubidium. This mixture is then illuminated with an infrared laser, which increases the magnetization of the helium nearly 100,000-fold. The gas maintains this hyperpolarized state for almost 24 hours.

The gas, which is produced in the Physics Department by Professor Mark S. Conradi three miles from the medical school, is given to the patient to inhale after being positioned in the magnet. The patient is instructed to hold his or her breath for 10 seconds. "During these 10 seconds," says Dr. Yablonskiy, "we basically get a 3-D picture of the whole lung."

The distances the gas atoms travel are recorded as colors ranging from orange (normal lung) to violet (severe destruction) (see figure on page 5).

Dr. Yablonskiy says air/space measurement is possible because helium



Dimitriy A. Yablonskiy, Ph.D.
Mallinckrodt Institute of Radiology
Washington University School of
Medicine

atoms are confined by the airway and alveolar walls. "We measure how far the helium atoms move within the lungs. Due to Brownian thermal motion, the atoms can move almost one millimeter in one millisecond if there are no confining walls. If you look at the lung structure in normal people, the typical size of alveoli is about one-third of a millimeter. When we measure the

motion of helium inside healthy lungs, we find that the atom is moving about one-third of a millimeter. But when lungs become emphysematous, the size of alveoli increases substantially and the helium atoms can move farther—this increase in distance traveled is presented in the color images and reveals regions of airway expansion and tissue wall destruction."

As first author, Dr. Yablonskiy's research, funded by the RSNA R&E Foundation, was published in the March 5, 2002, issue of the *Proceedings of the National Academy of Sciences*.

All this delights co-author Joel D. Cooper, M.D., a pioneer in lung volume reduction surgery to treat selected patients with emphysema. Dr. Cooper,



the Evarts A. Graham Professor of Surgery and chief of the Division of Cardiothoracic Surgery at Washington University, says helium imaging shows promise in screening for early pulmonary disease.

"This turns out to be a very sensitive technique for looking at the degree of changes of emphysema in three dimensions—to be able to look simultaneously at how destroyed the lung is and what the distribution of ventilation is. This technique has helped us explain some of the results we have seen in volume reduction surgery." Dr. Cooper says the procedure's immediate value lies in helping in the selection and treatment of surgical candidates.

"There are patients who, according to the numbers we get by ordinary lung function studies or the results you might get by CT scan, you might think had very severe emphysema throughout the lung and were not candidates for volume reduction.

Helium imaging has allowed us to understand that sometimes there are some good areas of lung remaining. They're not getting very much air when they

breathe in. They're underventilated due to other problems in the lung," says Dr. Cooper. "With helium imaging we can better predict which patients might improve with this operation."

This turns out to be a very sensitive technique for looking at the degree of emphysema changes in three dimensions.

—Joel D. Cooper, M.D.

"The truth is, we're learning as we go," he adds. "Helium imaging is not in every case used to make a decision. It's used to help us learn how to predict outcomes and what effect treatment

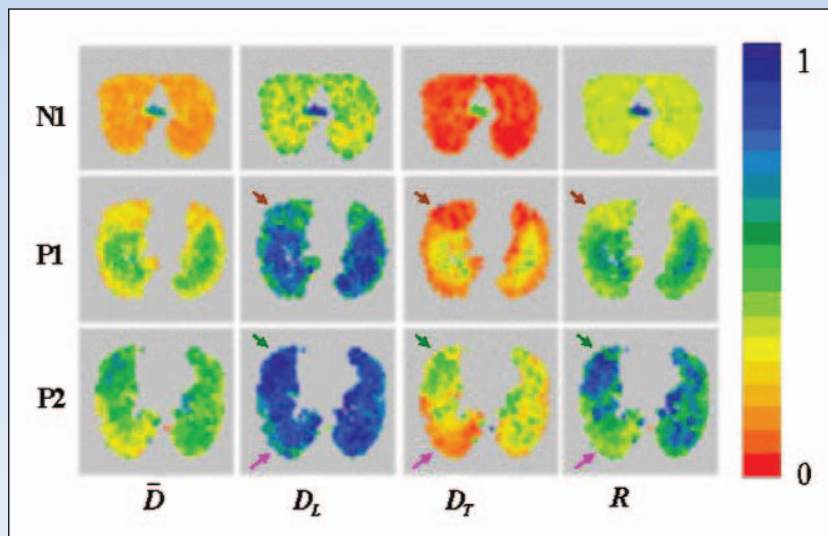
might have on the patient."

Dr. Cooper and his colleagues recently reported the five-year follow up of their first 250 patients who had lung-volume reduction surgery. "It's gone very well. It's the most grateful group of patients I've ever had, including our lung transplant patients. It looks

more durable than we thought. It looks like half the patients at five years are still better than they were before surgery."

These researchers hope that helium

imaging will raise that level of success. A second co-author of the Yablonskiy paper, Stephen S. Lefrak, M.D., a professor of medicine at Washington University, says "Our findings suggest this may be a new means for the early detection of emphysema by demonstrating the enlargement of the air spaces in the lung. I suspect it also will help in understanding the development, evolution, progression and physiological effects of many lung diseases including emphysema, asthma and perhaps pulmonary fibrosis." □



Representative single-slice maps of diffusivities for a normal subject (N1) and two patients with severe emphysema (P1 and P2). From left to right, the columns display the orientationally averaged diffusivity \bar{D} , the longitudinal ADC value D_L , the transverse ADC value D_T , and the mean airway radius R . The color scale on the right represents diffusivity coefficients in cm^2/sec and airway radii in millimeters. Each color corresponds to 0.05 unit. Brown arrows point to an area of emphysematous lung with minor airway destruction, pink arrows point to an area of emphysematous lung with moderate airway destruction, and green arrows point to a lung area with severe emphysema. The small high-diffusivity regions in N1 are the two major bronchi just below their branching from the trachea.

(PNAS 99:5,3111-3116)

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NCI Lung Screening Trial Nearing Launch

The National Cancer Institute's (NCI) pioneering multi-center clinical trial of lung cancer screening is preparing to launch sometime this summer with some slight modifications. The National Lung Screening Trial (NLST) is a randomized, controlled trial in which individuals at high risk for lung cancer will be randomly assigned to either low-dose spiral CT or chest x-ray (CXR). The study will be large enough, as many as 50,000 participants, to determine if there is a 20 percent or greater difference in lung cancer mortality between the two screening modes.

Claudia I. Henschke, M.D., Ph.D., an eminent radiologist and respected crusader for lung cancer CT screening, voiced concerns about NLST in April during an appearance before the health subcommittee of the House Ways & Means Committee.

Dr. Henschke, a radiology professor at Cornell University Weill Medical College in New York, is the principal investigator for the ongoing New York Early Lung Cancer Action Project (NY-ELCAP), an expansion of ELCAP, a 10-year-old clinical trial. ELCAP has a substantially different design than NLST and has been expanded to other institutions throughout the United States.

By comparison, ELCAP enrolls a much smaller cohort with all of its

members receiving spiral CT screening. The key concerns of ELCAP are the relative frequencies of the different types of lung cancer diagnoses under screening, the significance of these as to whether they indeed represent potentially fatal disease and how curable they are by early treatment. The key endpoint in the ELCAP trial is lung



Claudia I. Henschke, M.D., Ph.D.
Department of Radiology
Cornell University Weill Medical College



Denise R. Aberle, M.D.
Department of Radiology
UCLA School of Medicine

cancer case-fatality for each of the different types of diagnoses, not overall mortality as in NLST.

In her appearance before the health subcommittee, Dr. Henschke stated that a randomized trial would take too long, be too expensive and would be "unlikely to provide an answer as it has the same design flaws that recently caused the firestorm about mammography screening." She asked members of the subcommittee to step in and force NCI to change its trial design. In fact, she said the fatal flaw of NLST was its focus on overall mortality rather than on case-fatality during the time when

the screening shows a benefit. "This misdirected focus on overall mortality rather than case-fatality resulted in the incorrect conclusion that there was no benefit to mammography screening for breast cancer as shown by an article in the *Lancet* in February 2002," says Dr. Henschke.

In November, the NCI's Board of Scientific Advisors (BSA) voted 17 to 8 with one abstention on NLST. Although many votes on scientific issues by the BSA are mixed, the summary of that meeting reflects the concerns of some members about the high cost of the \$200-million trial and attendant "lost opportunity" costs. Such opportunities include better smoking prevention and cessation programs and improved treatment modalities. A second concern was a

potentially negative impact on investigator-initiated grants (R01s and P01s).

NCI Adapts to Criticism

NCI has made changes in the trial in response to those concerns. For example, components of the NLST data will enrich other NCI-funded research such as the Lung Cancer SPORES (Specialized Project of Research Excellence), will design substudies to look at the effects of screening on smoking habits and will encourage referrals to smoking cessation programs during the NLST enrollment process.

Denise R. Aberle, M.D., professor

of thoracic imaging and vice-chair of research in the Department of Radiology at the UCLA School of Medicine, is the principal investigator of the American College of Radiology Imaging Network (ACRIN) component of the NLST. Dr. Aberle admires the groundwork laid by Dr. Henschke, who she says “has done an amazing job of bringing the epidemic of lung cancer to the front of the nation’s awareness as the primary cancer killer in both men and women.”

But Dr. Aberle insists there is no substitute for a large, randomized trial of spiral CT in which lung cancer-specific mortality, and ideally, all-cause mortality, are measured. “Unlike treatment trials in which survival is an appropriate outcome measure, we cannot look at survival, case-fatality or other surrogate endpoints such as tumor size to determine the benefits of screening,” Dr. Aberle states.

As to Dr. Henschke’s complaint about the extended, eight-year length of the trial, Peter Greenwald, M.D., director of the Division of Cancer Prevention at NCI, says the trial will be stopped after four years if, at that point, it can be shown that lung CT cuts the death rate from lung cancer. The cost of a four-year trial would be \$100 million.

What everyone agrees on, of course, is the need to do a better job of screening for lung cancer, the leading cause of cancer-related deaths in the



4 mm micronodule in left lower lobe detected on low dose screening CT. Observational trials show that from 20–60 percent or more of first-time screening CT scans will contain focal opacities requiring some form of follow-up.

Photo courtesy of Dr. Aberle

United States. It is expected to claim nearly 155,000 lives in 2002.

There are more than 20 million current and former smokers in the United States, all of whom are at high risk for lung cancer.

Currently, when lung cancer is detected, the disease has already spread outside the lung in 15 percent to 30 percent of cases.

Spiral CT, a technology introduced in the 1990s, can detect tumors well under 1 cm in size, while chest x-rays detect tumors about 1 cm to 2 cm in size. Conventional wisdom suggests that the smaller the tumor at detection,

the more likely the chance of survival. Worldwide consensus exists that early detection in stage I has a five-year survival rate of more than 70 percent, while detection in later stages has a five-year survival rate of less than 10 percent.

Spiral CT screening for lung cancer isn’t without its potential downsides.

Recent studies indicate that 25 percent to 60 percent or more of screening CT scans of smokers and former smokers will show abnormalities (see figure). Most of these abnormalities are not lung cancer.

These abnormalities—scars, areas of inflammation or other noncancerous conditions—can mimic lung cancer on scans and may require additional testing. These tests may cause anxiety for the participant or lead to unnecessary biopsy or surgery if not managed properly. In addition, people may be treated with surgery or chemotherapy for conditions thought to be cancers but that do not behave like cancers.

Dr. Henschke says that with ELCAP, the first baseline screening finds a high percentage of abnormalities that can be appropriately managed. On subsequent screenings, she says, few abnormalities are detected and many of them are lung cancers.

No one is downplaying the risks. The point of NLST is to measure the mortality benefits from lung cancer screening so the risks can be put in perspective. □

Unlike treatment trials in which survival is an appropriate outcome measure, we cannot look at survival, case-fatality or other surrogate endpoints such as tumor size to determine the benefits of screening.

—Denise R. Aberle, M.D.

Limiting Work Hours for Residents

It's something the medical community has been aware of for many years. Now, through media reports and popular television programs, the public is learning of the extraordinarily difficult working conditions that medical residents must endure and how that environment may lead to medical mistakes.

Two leading medical groups are taking steps to control and improve working conditions for residents.

For the first time ever, the American Medical Association (AMA) has approved limits on the number of hours residents can work in hospitals. During the AMA's annual June meeting in Chicago, the House of Delegates endorsed wide-ranging policy changes with specific definitions for hours and working conditions for residents.

Hospitals will need to provide additional support for residents so that they can focus more on patient care and less on extraneous duties—so called “scut work.”

Earlier in June, the Accreditation Council for Graduate Medical Education (ACGME) ratified a similar plan to limit the number of work hours to 80 hours per week, averaged over a four-week period.

Peter Watson, M.D., says the new policy has been a long time in coming. Dr. Watson is a member of the AMA Board of Trustees, an internal medicine resident and chief of medical residents at the Henry Ford Hospital in Detroit.

He says the AMA's Resident and Fellow Section and Medical Student Section have been working on this problem for more than 20 years. “Scientific evidence shows a work hours limit is needed. Residents are already under huge stress. Long working hours just add to that stress,” he says.

Dr. Watson says the growing public awareness of the consequences of fatigue, the changing hospital environment and hospital closures have forced both the AMA and the ACGME to clearly set limits and consequences for failure to comply. “The work hours standard is a first for the AMA and definitely appropriate,” he says.

Some highlights of the AMA plan include:

- Limit the total residency duty hours to 80 each week, averaged over a two-week period. The AMA will work with the ACGME to see if a five-percent increase may be appropriate for some training programs, such as surgery.
- Restrict scheduled on-call assignments to 24 hours with up to six more hours to complete transfer of care, patient follow-up and education.
- Limit scheduled on-call shifts to no more than every third night and require one day off in seven.



Theresa C. McLoud, M.D.
RSNA's Board Liaison for Education

- Require that any limits on total duty hours not adversely affect resident physician participation in organized educational activities of the residency program.

Dr. Watson says the AMA will work with the ACGME and monitor the enforcement of the new standards. He says the ACGME, which accredits about 7,800 medical

residency training programs for 100,000 residents each year, could put programs under close surveillance, probation or shut them down for violating the working condition guidelines.

Both the AMA and the ACGME are taking steps to better regulate residency programs in hopes of heading off federal legislation proposed by Representative John Conyers Jr. The Michigan Democrat has proposed amending the Social Security Act to reduce work hours and increase supervision of resident-physicians to ensure the safety of patients as well as the residents themselves. The measure, introduced in November of 2001, has been referred to the Subcommittee on Health.

Theresa C. McLoud, M.D., RSNA's Board Liaison for Education says, “We need to police our own profession and the well-being of our residents, not the federal government.” Dr. Watson agrees, saying, “We prefer not to have a law regulating hours.”

Dr. Watson says as the new guidelines rapidly go into effect during the next 12 months, he and other residents want to have the access to changing the regulations, if necessary. "That would be easier than lobbying Congress to change the law," he adds. Dr. Watson says the AMA and ACGME are looking at the total working environment, not just the hours because it is difficult to regulate individual work issues.

Objections to the New Guidelines

Dr. McLoud notes that in some specialties, such as surgery, the shortened hours may not allow for a complete educational experience particularly in regard to operating time. Residents are also concerned about continuity of patient care. Dr. McLoud says hospitals will need to provide additional support for residents so that they can focus more on patient care and less on extra-neous duties—so called "scut work."

She says more nurses or physician assistants could help fill the gap, but that will cost the already financially stressed medical system even more.

In addition to her role on the RSNA Board of Directors, Dr. McLoud is the associate radiologist-in-chief and director of education in the Department of Radiology at Massachusetts General Hospital in Boston. She's also a professor of radiology at Harvard Medical School. At her hospital, radiology residents work a 12-hour shift to provide coverage at night in the Emergency Radiology division through a night float arrangement.

Dr. Watson says radiology residents at Henry Ford Hospital will face some changes because those with a transitional year spend it in internal medicine and surgery. "Plus, radiology residents have to work with residents from other teams," he adds.

Another problem that hospitals face

is the potential loss of the continuity of care. Residents learn by tracking patients throughout their hospital stay. Staff physicians rely on the residents to provide updates on patient conditions and test results. Residents also help keep the number of care providers from overwhelming patients. Dr. Watson says some hospitals will be forced to come up with creative changes to their programs in order to ensure residents get all the training they need. He says residents should be asked, "What are you doing during those hours?" Some shift adjustments will help. Dr. McLoud says residents also should be encouraged to sleep in hospitals during lulls in their shifts.

Dr. Watson says most programs are not in violation of current standards. He warns that programs breaching the stronger, newer standards will need to come up with plans to improve working conditions immediately. □

Residents' Lounge at RSNA 2002

RSNA Members-in-Training and nonmember residents are invited to visit the Residents' Lounge during RSNA 2002, December 1–6, in Chicago.

The Residents' Lounge provides a place to relax and network with colleagues while enjoying complimentary refreshments. Sample

issues of *Radiology*, *Radiographics*, *RSNA News* and the 2002 *Education Center Catalog* will also be available.

RSNA offers free membership to residents. Admission to the RSNA Scientific Assembly and Annual Meeting is also free for RSNA Members-in-Training. For

more information, contact the RSNA Membership and Subscription office at (630) 571-7873 or membersh@rsna.org.

You may register for RSNA 2002 at www.rsna.org/rsna/advanceregistration/.



RadiologyInfo™

Ready for Prime Time

For nearly three years, RSNA and the American College of Radiology (ACR) have been enhancing and expanding a Web site where patients can learn about radiology. The site, *RadiologyInfo*™ (www.radiologyinfo.org), is now ready for radiologists and, more importantly, primary care physicians to recommend to patients preparing to undergo radiologic procedures and therapies.

"When we started the site, we had only a few procedures listed," says Robert A. Novelline, M.D., co-chair of the RSNA/ACR Public Information Web Site Committee. "We now have more than 40 procedures. These represent a baseline of common diagnostic, therapeutic and interventional procedures. The site is now a valuable resource for the public to review prior to having a radiologic procedure."

Site Redesigned

The site was recently redesigned and the committee is launching a promotional campaign to make radiologists, primary care physicians and the public aware of the site and its value. "Before we began marketing *RadiologyInfo* to referring physicians and the public, we wanted to have a full spectrum of procedures on it," says committee co-chair Paul H. Ellenbogen, M.D., who is also the chairman of the Department of Radiology at Presbyterian Hospital of Dallas. "We started out with general diagnostic procedures, such as CT of the abdomen, MR of the brain and barium enema. We have extended that list to include almost all of the common procedures that would be performed in an outpatient imaging center or in a hospital radiology department. We have

also added radiation oncology procedures, nuclear medicine and angiography interventions."

The site's new user-friendly design separates radiologic procedures into three divisions: diagnostic radiology, interventional radiology and radiation therapy. Diagnostic radiology is further divided into procedures of the abdominal region, central nervous system, chest, children's imaging, heart and vascular system, men's imaging, musculoskeletal system, nuclear medicine and women's imaging. Interventional radiology currently includes procedures of the heart and vascular system and women's imaging. Radiation therapy describes radiation oncology procedures, therapeutic procedures and the equipment used in radiation therapy. Additional procedures are on the short- and long-term production schedule, with new information on interventional and radiation therapy procedures most imminent.



Paul H. Ellenbogen, M.D.
Co-chair, RadiologyInfo



Robert A. Novelline, M.D.
Co-chair, RadiologyInfo

Value of the Site

"The purpose of the Web site is to educate patients on what it is like to experience common radiologic procedures, including the indications and preparation, what happens in the procedure room and what's involved in post-procedure care," says Dr. Novelline, professor of radiology at Harvard Medical School and director of emergency radiology at Massachusetts General Hospital in Boston. "The value of *RadiologyInfo* to patients is that if they read about a procedure before undergoing it, they will have a much easier time with it by understanding what is happening, who will be present, what the room looks like and how long the procedure will take. This information should help alleviate

patients' anxieties and provide them with a better overall experience."

The value of the site to primary care physicians, Dr. Novelline believes, is that when the physician decides to order a radiologic procedure, he or she

can also refer the patient to *Radiology-Info* for a complete description. A nurse or secretary can print a description for the patient. "The value of the site to radiologists is that a better informed patient will go through the procedure more easily and with less anxiety," he says.

The site also includes a glossary of terms, information about radiation safety and a section devoted to careers in radiology. In addition, a news section provides a patient-level discourse on some new developments in radiology and controversies that have received attention in the news media, such as CT scanning in children and the value of screening mammography.

Promotional Campaign

According to Dr. Ellenbogen, the promotional campaign being launched for *RadiologyInfo* includes news release distribution to national print media, articles and ads in *RSNA News* and the *ACR Bulletin*, ads in *Radiology* and *Radiographics*, and letters to academic program directors in medical schools around the country asking them to tell physicians in training about the site. "This is a public information site and the main target is the lay public," he says. "We also want this site to be used by referring physicians. At our facility, when a referring physician calls us for a specific radiologic procedure, we ask the physician or scheduling person to tell the patient to go to the site."

To ensure the accuracy of the infor-



RadiologyInfo features an array of procedures written in an easy-to-understand style to enhance patient education.

mation presented, the RSNA/ACR committee asks an expert to provide information for each description, Dr. Novelline says. "Each of the procedures is written by a group that includes a scientific writer and an expert selected by the Web site committee. The committee consists of eight

members with access to more than 40 medical advisors. For every procedure, such as an upper GI series, an expert is selected to work with a scientific writer. The writer

knows the format and structure, and the expert provides the pertinent information. The two co-chairs and other members of the committee review the first draft and make corrections before the procedure's description goes on the site. We then add relevant images," he says.

The RSNA/ACR Public Information Web Site Committee meets three to four times a year, either in person or by conference call, to formulate long-

and short-term goals, to decide what to add on the site and to choose the corresponding expert, Dr. Novelline says. "In the future, we hope to have 75 to 80 procedures on the site. *Radiology-Info* will constantly change as new technologies develop in radiology and new controversies arise. Our long-range goal is to have a complete menu of procedures and keep them completely up to date to the state of the art in radiology." □

RSNA/ACR Joint Public Information Web Site Committee

Robert A. Novelline, M.D., Co-Chair
Paul H. Ellenbogen, M.D., Co-Chair
Burton P. Drayer, M.D.
Robert R. Edelman, M.D.
Valerie Jackson, M.D.
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R. Gilbert Jost, M.D.,
RSNA Board Liaison
Michael J. Pentecost, M.D.,
ACR Board Liaison

The site is now a valuable resource for the public to review prior to having a radiologic procedure.

— Robert A. Novelline, M.D.

Education Exhibits: Life After the RSNA Scientific Assembly

When *RadioGraphics* was first published in the early 1980s, the publication's first editor, William J. Tuddenham, M.D., envisioned the new RSNA journal as a showcase for the best and most notable scientific exhibits presented each year at the Society's annual meeting.

Two decades later, the bimonthly journal continues to provide a high-quality venue for continuing medical education (CME) beyond the RSNA Scientific Assembly. And, just as journal editors rely on editorial boards to review material suitable for publication, William W. Olmsted, M.D., RSNA Education Editor and editor of *RadioGraphics*, relies on panels of experts to review the education exhibits.

The panel chairs are also on the RSNA Education Editorial Board.

Assessing Educational Value

During each RSNA Scientific Assembly, panelists fan across the education exhibits floor to evaluate the suitability of the exhibits for publication as a manuscript in *RadioGraphics*. They view the more than 1,000 exhibits during a special time reserved exclusively for *RadioGraphics* panel members and during times when the exhibits are open to viewing by meeting attendees. It takes approximately 2½ days for all exhibits to be reviewed.

Primarily, the panelists judge

exhibits on scientific accuracy and educational quality. Specifically, they assess exhibits according to five criteria: scientific merit, clarity of focus, pictorial quality, teaching value and general interest. Review includes determining whether the exhibit has a mes-

(most desirable), then give the exhibit an overall score with comments.

According to panelist David A. Bluemke, M.D., Ph.D., from Johns Hopkins Hospital in Baltimore, the exhibit must be a comprehensive evaluation of a topic. He also determines

whether an exhibit is well organized or includes redundant wording, images or illustrations that do not support the message of the exhibitor. "Messages should be easily grasped within a few minutes," he says. Likewise, panelist Theodore T. Miller, M.D., from the North Shore—Long Island Jewish Health System in New York, asks himself, "Is the presentation aesthetically pleasing or is it a dis-



William W. Olmsted, M.D.
RSNA Education Editor
Editor, *RadioGraphics*



Theodore T. Miller, M.D.
Reviewer, RSNA Education Exhibits

sage as opposed to being simply a collection of images or pictures, whether the exhibit expounds an accepted point of view and whether the statistical analysis is accurate and appropriate.

Finally, panelists must decide if an exhibit's images will reproduce well in *RadioGraphics*. Each exhibit is evaluated by at least two panelists. They use exhibit evaluation forms on which they score an exhibit on each criterion from 1 (least desirable) to 5

organized jumble?"

Ultimately, he decides whether the topic of an exhibit is timely and substantial enough to become an interesting 10-page-journal manuscript. Joel E.

Lichtenstein, M.D., a panelist from the University of Washington in Seattle, adds that a delicate balance exists between clarity of focus and too narrow a subject. "Superficial review of a broad, commonly addressed topic will not be suitable," he explains. "But

If I am going to spend 30 minutes studying an article in RadioGraphics, I want to come away with a feeling that my time was well utilized.

—Mark J. Kransdorf, M.D.

neither will an excellent exhibit that will be of interest only to a small segment of the readership.” Panelist Charles S. Resnik, M.D., from the University of Maryland Medical System in Baltimore adds, “Many exhibits focus on minutiae that may be pictorially excellent but still not publishable. Others do a great job reviewing a topic that has been reviewed dozens of times before that is not worth taking up publication space again.”

Mark J. Kransdorf, M.D., a panelist from the Mayo Clinic in Jacksonville, Fla., sums it up best: “If I am going to spend 30 minutes studying an article in *RadioGraphics*, I want to come away with a feeling that my time was well utilized. I am sure other *RadioGraphics* readers feel similarly.”

Panelists later meet to review their scoring and rank all potentially publishable exhibits from most to least desirable. The panel chairmen also review the exhibits. Then, as notes Neuroradiology Panel Chairman Laurie A. Loevner, M.D., from the University of Pennsylvania Medical Center in Philadelphia, they

“digest all the data and finalize the exhibit selection.” The panel chairmen complete a form listing the exhibits recommended for publication, also indicating whether an exhibit is suitable for online publication and as a CME exercise. Last year, 246 exhibits were chosen.

After the panelists make their suggestions, Dr. Olmsted and his staff at the *RadioGraphics* editorial office in Bethesda, solicit the exhibit authors for a formal manuscript. About 60 percent of authors submit a manuscript, which is then scrutinized by two additional reviewers.

“The reason for this is that the translation from exhibit to manuscript



Attendees study scientific posters at RSNA 2001.

needs to be evaluated carefully,” explains Dr. Olmsted. “Plus, the manuscript reviewers have more time to do an in-depth analysis than the panelists, who are looking at hundreds of exhibits all at once.” He goes on to say that

while the panelists are selecting exhibits for potential publication, the manuscript reviewers judge the accuracy of the information and ask for improvements or revisions. Some manuscripts are subsequently rejected.

Over the next year, each issue of *RadioGraphics* features as many as a dozen education exhibits with appropriate commentary and sometimes a

response from the exhibit author.

Most articles in *RadioGraphics* provide the opportunity for category 1 CME credit. These articles are also available in *RadioGraphics Online* (radiographics.rsnaajnl.org). Some online articles contain supplemental information such as additional images,

video clips and extensive tabular information.

Physicians may mail their answers to the CME tests to RSNA, or may take the tests online. Those who mail their answers will receive a return letter with the results. Those who take the tests online will immediately see the results.

All CME credits earned through RSNA are automatically deposited into the new RSNA CME Credit Repository. CME credits earned online are deposited immediately; those earned by mail are deposited weekly. RSNA members may view their CME record at anytime at www.rsna.org/cme and may print a cumulative record of RSNA-earned credits, which includes the RSNA Accreditation Statement and a signature by RSNA Secretary-Treasurer David H. Hussey, M.D. Credits earned through RSNA from 1999 to the present, including credits earned at the 1999, 2000 and 2001 scientific assemblies, have been added to the repository. □

7

Number of issues of *RadioGraphics* per year. Includes six bimonthly issues plus a monograph issue on a subspecialty topic.

28,000

Number of subscribers to *RadioGraphics*.

20

Percentage of subscribers from outside North America.



An expanded version of this article will appear in the July-August issue of *RadioGraphics*.

History of the RSNA—Part 18

The Dallas Experience

The near cancellation of the RSNA Scientific Assembly in 1979 made many Society leaders recognize the importance of offering educational opportunities year round. The RSNA Educational Materials Library of slides and audiotapes based on selected annual meeting sessions had been growing steadily since its establishment in 1973. In 1980, the Board of Directors decided to accelerate the expansion of the Educational Materials Library by printing an annual catalog and by appointing Philadelphia radiologist William J. Tuddenham, M.D., as editor of educational materials.

Meanwhile, the field of radiology continued to expand. The June 1980 issue of *Radiology* featured nine papers outlining the history and current applications of percutaneous transluminal angioplasty. The September issue included four articles with magnetic resonance images of animals and humans. To make radiologic information more accessible, RSNA initiated the publication of a five-year cumulative index of articles in *Radiology* and eight other major publications in the field and included it as part of the *Radiology* subscription.

By 1999, 40 major publications were indexed. Beginning with articles from 2000, the index was offered online only. Currently, 42 publications are included.

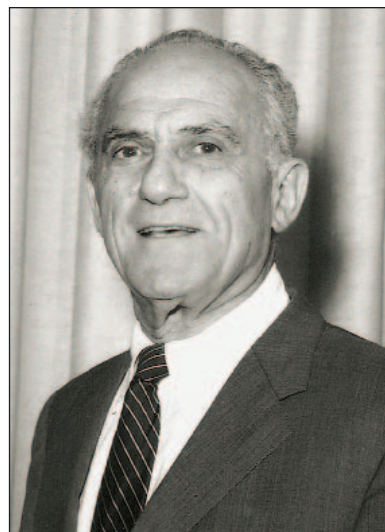
Unexpected Frustrations

After the annual meeting in Atlanta, the RSNA Board of Directors was understandably anxious about the 66th Scientific Assembly to be held at the Dallas Convention Center. But Dallas was not experiencing the same crime problems that had plagued Atlanta. A meeting in

Texas promised warm weather and a pleasant environment; however, that promise went unfulfilled.

A few weeks before the 1980 meeting, a hurricane disrupted the usual late-November weather patterns in the United States. Texas experienced days of torrential rains. The rains were followed by an unseasonable cold spell. Consequently, during the weekend in which the RSNA meeting began, snow fell in Dallas. Simultaneously, Midwest cities such as Chicago and Detroit basked in balmy September-like temperatures.

Further, bus drivers in Dallas chose the week of the RSNA meeting to go on strike for better working conditions. Replacement bus drivers were brought in to transport RSNA meeting attendees between their hotels and the convention center. Unfortunately, many replacement drivers were not familiar with the layout of Dallas streets and location of landmarks. More than once, a bus full of radiologists circled the city while the



Milton Elkin, M.D.
1981 RSNA President



William J. Tuddenham, M.D.
RSNA's first editor of educational materials

driver looked for the convention center. A rumor circulating among meeting attendees was that one bus full of RSNA members had been spotted in Fort Worth 30 miles away.

Another problem with Dallas was the difficulty in locating a taxi. In the evening, meeting attendees took taxis to restaurants at the fringe of the city only to find that after dinner, they couldn't find taxis to take them back to their hotels. Restaurant managers frequently telephoned for taxis, but the wait was up to an hour.

Meeting Events

The Scientific Assembly itself was notable for many reasons. The Program Committee had scheduled important sessions during the latter half of the week to balance a meeting that previously seemed to feature its most

important papers and lectures during the first few days. William S. Moore, Ph.D., gave the New Horizons lecture titled "Nuclear Magnetic Resonance: Past, Present and Future." Godfrey Hounsfield, D.Sc., who had developed computed tomography nearly a decade

before, received the Society's Gold Medal. In addition, for the first time, three commercially available videoangiographic systems were on display.

Meanwhile, technical exhibitors were competing aggressively on the exhibit floor for the attention of the passing radiologist. Members of the Board of Directors were distraught by the many gifts being given by exhibitors—from pencils and mugs to calendars and buttons that advertised manufacturers' products—creating an atmosphere similar to the midway of a

county fair. Also, many exhibitors had hired models who wore bathing suits or evening gowns to present new radiographic equipment. RSNA soon devel-

Many exhibitors had hired models who wore bathing suits or evening gowns to present new radiographic equipment.

oped codes of conduct that required the technical exhibitors to maintain a sense of decorum during the annual meeting. After the Scientific Assembly ended, new RSNA President Milton Elkin, M.D., who had been chairman of the Board during the crisis involving the 1979 meeting in Atlanta, believed the Society's Scientific Assembly could not be held in Dallas again. When Dallas city officials

learned RSNA would not return in 1984, they charged the Society with breach of contract and threatened to sue.

Unfortunately, Chicago's McCormick Place was already booked for 1984, but a new convention center was being built in Washington, D.C. RSNA leaders planned to hold the Scientific Assembly there. Meanwhile, many Society members were looking forward to the next three annual meetings back in Chicago. □

Reference

1. Stewart DA. Personal communication. November 1980.



The entire *History of the RSNA* series, to date, is available on our Web site at www.rsna.org/about/history/index.html.

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Radiology in Public Focus

A press release has been sent to the medical media for each of the following scientific articles appearing in the July issue of *Radiology* (radiology.rsna.org):

Calcium Begets Calcium: Progression of Coronary Artery Calcification in Asymptomatic Subjects

Initial calcium score, not gender or age, is the most significant predictor of coronary calcium progression in asymptomatic patients. Hyo-Chun Yoon, M.D., Ph.D., from Kaiser Moanalua Medical Center in Honolulu, and colleagues studied pairs of electron beam CT scans from 103 women and 114 men.

They found that the amount of coronary calcium present on the initial scan was the most important determinant of calcium progression. Among traditional risk factors, only hypertension and diabetes proved to be significant independent factors for calcium progression. They write: "This study demonstrates that calcium begets calcium." (*Radiology* 2002; 224:236-241)



Mammographic Screening of TRAM Flap Breast Reconstructions for Detection of Nonpalpable Recurrent Cancer

Mammography may be able to detect early recurrence of cancer in patients who have undergone mastectomy followed by transverse rectus abdominis musculocutaneous (TRAM) flap reconstruction. Mark A. Helvie, M.D., and colleagues from the University of Michigan Health System in Ann Arbor conducted a prospective assessment of 214 screening mammograms from 113 asymptomatic women.

They found 16 benign lesions (7.5 percent), 16 probably benign lesions (7.5 percent), 6 suspicious lesions (2.5 percent), and 1 lesion highly suggestive of malignancy (0.5 percent). Follow-up biopsies on six patients found two with invasive ductal carcinoma on histology.

The authors write: "Should routine screening of TRAM flaps be advocated for all patients? Our study is too small to make a definitive recommendation but provides inferential support of the practice." (*Radiology* 2002; 224:211-216)

Evaluation of an Emergency Radiology Quality Assurance Program at a Level One Trauma Center: Abdominal and Pelvic CT Studies

Double reading CT scans may help to improve the quality of care in an emergency setting. Howard P. Forman, M.D., M.B.A., and colleagues from Yale University School of Medicine in New Haven, Ct., reviewed 512 abdominal/pelvic CT scans initially interpreted by attending radiologists in the emergency department and subsequently interpreted by subspecialty abdominal imaging radiologists.

They found discordant readings in 153 cases (29.9 percent). Of these discordant readings, patient management changed in 12 cases (7.8 percent).

The researchers write: "Our findings show that clinically significant improvement of patient management does occur with a quality assurance program using redundant systems. Although most discordant interpretations do not result in a change in patient management, there are a number of cases in which patients are managed differently as a result of new clinically significant findings." (*Radiology* 2002; 224:42-46)

PROGRAM AND GRANT ANNOUNCEMENTS

How to Write a Good Grant Application

Deadline for Registration is October 25, 2002

This four-hour workshop will be on November 30, 2002, immediately prior to RSNA 2002 in Chicago. The goal of the workshop is to provide participants with an introduction to writing a grant

proposal for NIH, specifically relating to the radiological sciences. The course is primarily intended for faculty in academic centers who wish to pursue a career in radiologic research. (*Participants must be registered for RSNA 2002 to attend.*) For more information, contact (630) 368-3758 or ord@rsna.org.

Introduction to Research

An Introduction to Research workshop will be offered at RSNA 2002 to second-year residents. Sessions are cosponsored by RSNA, ARRS and AUR. For more information, contact (630) 368-3758 or ord@rsna.org.

RSNA Research Scholar Focuses on Developing Less Invasive Cardiac Imaging



A radiologist who helped change the gold standard of care in diagnosing and pre-operatively assessing aortic aneurysms now hopes to use technology to predict who is most likely to suffer from heart attacks, stroke and other diseases caused by atherosclerosis.

Geoffrey D. Rubin, M.D., wears many hats at the Stanford University School of Medicine in California. He is an associate professor of radiology and the founder and chief of the Cardiovascular Imaging Section. In addition, Dr. Rubin is the founder and medical co-director of the 3-D Medical Imaging Laboratory in the Department of Radiology at Stanford.

A Los Angeles native, Dr. Rubin received his bachelor of science degree from the California Institute of Technology in Pasadena, and his medical degree from the University of California in San Diego. His transitional internship took place at Mercy Hospital and Medical Center in San Diego. He was a radiology resident at Stanford and a fellow in body imaging, also at Stanford.

In 1994-1995, Dr. Rubin was an RSNA Research and Education (R&E) Foundation Research Scholar. His pioneering research in that program, "Prospective Assessment of CT Angiography,

MR Angiography and Conventional Angiography for Improved Accuracy of Surgical Planning for the Treatment of Abdominal Aortic Aneurysms," was the catalyst for enabling him to become a vocational researcher.

"Prior to the award, I had been performing investigations of helical CT, but they were quick, simple studies. The grant gave me the time to formulate an in-depth proposal and a higher level clinical research program, focused on clinical outcomes," he says.

His work, then and now, focuses on creating less invasive imaging techniques through CT and MR to diagnose and treat

patients and on the development and validation of computer algorithms to extract clinically relevant information from volumetric CT and MR datasets that eludes radiologists' observation.

In 1994, conventional angiography was considered the gold standard in diagnosing abdominal aortic aneurysms. "Since then, the results we produced through our research, plus independent results at other academic research programs, now mean conventional angiography is rarely performed for aortic aneurysm

assessment. CT and MR have supplanted it," says Dr. Rubin, adding that CT and MR are less invasive, cost less and provide much more information to physicians seeking to treat patients.

RSNA continues to play a role in



Geoffrey D. Rubin, M.D.

1994-1995 RSNA Research Scholar

Dr. Rubin's career. "RSNA has helped me develop from a junior researcher to a mentor," he says. Dr. Rubin is eager to help create the next generation of investigators. "I am fortunate to work with graduate students, medical students, residents, fellows, international visitors and junior faculty. I encourage them to submit their research to RSNA both for the experi-

ence of presenting at the premier scientific meeting in our field and publishing in the top radiology journal," he adds. In addition, Dr. Rubin is a member of the RSNA Program Committee on the cardiovascular imaging subcommittee and a member of the Distinguished Roster of Scientific Advisors for the R&E Foundation.

Dr. Rubin says he chose academic radiology as a result of the early successes he had with his helical CT research and the support he received from the radiology community. "I enjoy clinical practice, but the opportunities to train future radiologists and develop technology to improve patient care are very appealing to me," he says.

As for those young radiologists, Dr. Rubin says we are in a tremendously exciting time. "Through the rapid evolution of CT and MR scanners coupled with monumental developments in biology, particularly genomics and proteomics, and facilitated by increasingly

Continued on next page

I enjoy clinical practice, but the opportunities to train future radiologists and develop technology to improve patient care are very appealing to me.

— Geoffrey D. Rubin, M.D.

Continued from previous page

sophisticated computer analyses, I see huge new opportunities," he says. During his time as an RSNA R&E Foundation Scholar, he learned the requirements to achieving results that are both valid and rewarding. "Junior researchers must learn to conceive of studies where the results are strong enough to stand the test of time," he adds.

As for the future, Dr. Rubin says he plans to continue being active in his academic practice. He is working on 3-D computer-aided tools to detect lung cancer in CT scans and

technology to create quantitative maps of the phenotype of atherosclerosis for understanding the relationship between genotype and inter-individual disease manifestations. Current techniques can demonstrate the many manifestations of coronary, carotid, aortic, renal and peripheral arterial atherosclerosis once symptomatic. However, Dr. Rubin says what isn't clear is understanding who gets what and which early lesions will ultimately cause clinical disease. He hopes his cutting-edge research will help answer that dilemma.

The RSNA Research Scholar Program

is designed to provide support to young faculty members early in their academic careers by freeing up at least one-half of their time to gain experience in research. The grant is \$75,000 annually for two years to faculty members in North American institutions who are within five years of their initial faculty appointment. Scholar applicants must be nominated by their host institution and are required to take the *Advanced Course in Grant Writing* offered through the RSNA Department of Research. For Information on this and other RSNA Research and Education Foundation Grants and Awards, contact Scott Walter at (630) 571-7816 or walter@rsna.org, or look on the RSNA Web site at www.rsna.org.

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Dieter N. Hupscher, M.D.
Patricia Joan Mergo, M.D.
Jeffrey Moser, M.D.
Gregory Walter Petermann, M.D.
Sussan Sadeghi, M.D.
Ikuo Sakino, M.D.
James H. Short, M.D., Ph.D.
Thomas P. Sweeney, M.D.
Ad E. Van Voorthuisen, M.D.
Juan Fernando Yepes, D.D.S., M.D.

COMMEMORATIVE GIFTS

Beverly and Michael Huckman, M.D. • *In memory of Juan M. Taveras, M.D.*
Dr. Myles and Betty Koby • *In memory of John L. Doppman, M.D.*
RSNA • *In memory of Robert G. Fraser, M.D.*



RSNA PRESIDENT'S CIRCLE MEMBERS

(as of May 31, 2002)

William M. Angus, M.D., Ph.D.	Marten Klop
Lawrence L. Bauer, M.D.	Klaus J. Klose, M.D.
Rosalind Dietrich, M.D. & William G. Bradley Jr., M.D., Ph.D.	Louise & Richard G. Lester, M.D.
Earl E. Brant, M.D.	Jose T. Medina, M.D.
Lisa & Jonathan Breslau, M.D.	A. Orlando Ortiz, M.D., M.B.A.
Ritsuko Komaki, M.D. & James D. Cox, M.D.	Ronald Poelman & Anne G. Osborn, M.D.
Betty J. & Robert J. Douglas, M.D.	Barbara & Jerry P. Petasnick, M.D.
Anton N. Hasso, M.D. & Peggy J. Fritzsche, M.D.	Sherry & Michael M. Raskin, M.D.
Mary & Donald P. Harrington, M.D.	Anne & Walter L. Robb, Ph.D.
Betty and E. Robert Heitzman, M.D.	Barry Rumack, M.D. & Carol Rumack, M.D.
Dorothy and Frank Hussey Jr., M.D.	Ingrid E. & Stephen R. Thomas, Ph.D.
Jack Calvin & Nora A. Janjan, M.D.	Faith & Theodore A. Tristan, M.D.
Peggy & R. Gilbert Jost, M.D.	

News about RSNA 2002

Scientific Presentations at RSNA 2002

More than 7,400 abstracts were submitted for the RSNA 88th Scientific Assembly and Annual Meeting. The final selection is now under way.

Letters will be mailed this month notifying individuals about the status of their submitted abstracts for scientific papers and poster presentations. Letters for education exhibits were sent in mid-June.

Refresher Course Enrollment

Enroll now for any of the 298 refresher courses being offered at RSNA 2002. These include 45 limited-attendance workshops that feature intensive demonstration, discussion and expanded question-and-answer opportunities. New offerings include the *Essentials of Radiology* — eight refresher courses designed for general radiologists, residents and subspecialists who want to review other areas of radiology. The course block includes sections on imaging of the breast, chest, liver and shoulder, as well as pediatric and trauma imaging, ultrasound and urology. The Categorical Course in Diagnostic Radiology is *Findings at Ultrasound—What Do They Mean?* A syllabus will be available at RSNA 2002 through



the RSNA Education Center for \$75 for RSNA members and for \$85 for nonmembers. It will also be available for purchase beginning in December through *RSNA Link* at www.rsna.org or by calling

RSNA Education Resources at (800) 272-2920.

If you have already registered for RSNA 2002, you may register for refresher courses by fax, by mail, or on the Internet at

www.rsna.org/rsna/advanceregistration. Click on "Refresher Course Enrollment," enter your ExpoExchange confirmation number and then enter your selections.

RSNA 2002 offers up to 80.5 hours of category 1 credit toward the AMA Physician's Recognition Award.

Advance Registration Saves Time & Money

Registration rates increase \$100 onsite, so register by November 1 to save money and avoid long lines at McCormick Place. Also, housing reservations are made on a first-come, first-served basis. The sooner you register, the better your chances of booking the hotel of your choice.

Important Dates for RSNA 2002

October 11	Registration Deadline for Non-North American Attendees to Receive Badge Wallet by Mail
November 1	Final Advance Registration Deadline
December 1-6	RSNA 88 th Scientific Assembly and Annual Meeting



More than 53,000 people attended RSNA 2001 at McCormick Place.

Registration Made Easy

Online (24/7)

www.rsna.org/rsna/advance-registration/
Enter the identification number from the mailing label on your registration brochure to start the process. If you request hotel reservations, a hotel room deposit will be charged to your credit card.

Fax (24/7)

(800) 521-6017
(847) 940-2386 outside the United States and Canada

Phone (M – F, 8:00 a.m. – 5:00 p.m. CT)

(800) 650-7018
(847) 940-2155 outside the United States and Canada

Mail

ExpoExchange/RSNA 2002
108 Wilmet Rd., Ste. 400
Deerfield, IL 60015-0823

A confirmation will be sent by e-mail, fax or mail for each registration processed and for every change made. Please allow seven days for receipt of confirmation.

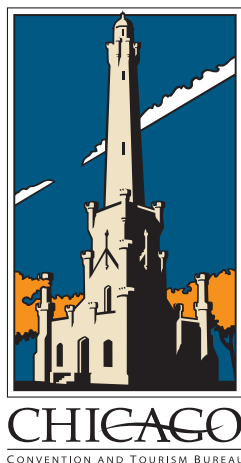
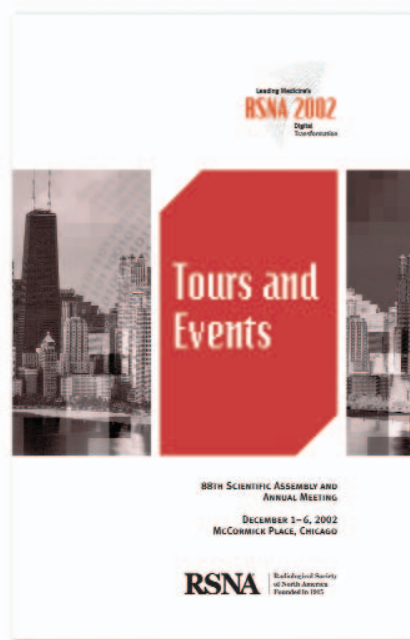
Tours & Events Brochure

The *Tours & Events* brochure will be mailed in mid-July to those who request a copy and to those who participated in tours at the last two RSNA annual meetings. Thereafter, you may request a brochure by checking the box at the top right-hand corner of the registration and housing form or via the Internet at www.rsna.org/rsna/advanceregistration.

RSNA's tours and events include a guided tour of the "Windy City," a holiday breakfast at Marshall Field's Walnut Room, and a cooking class with chef Tony Mantuano at Spiggia.

An article on the many things to do and see in Chicago during RSNA 2002 will appear in the August issue of *RSNA News*.

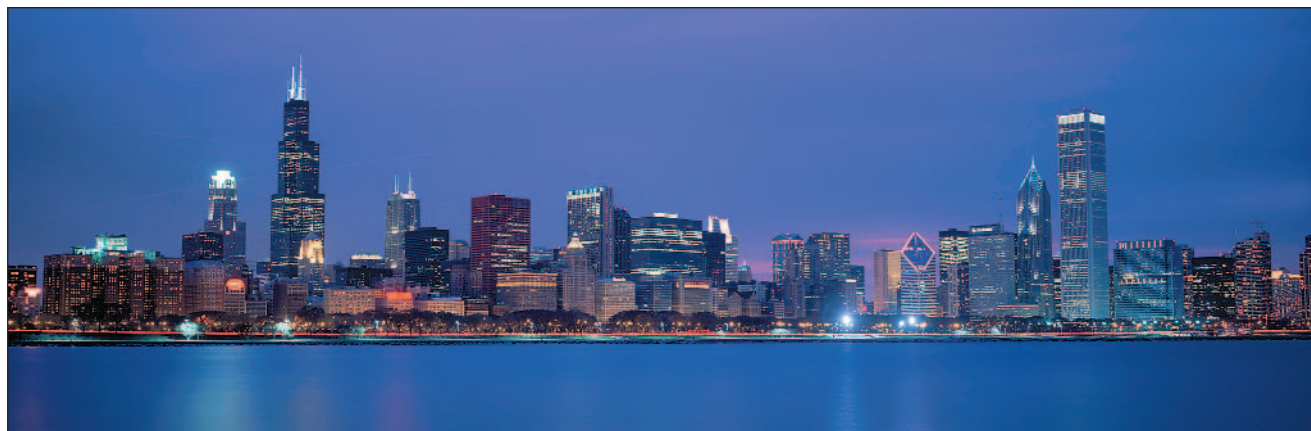
■ For more information on RSNA 2002, call (630) 571-7862 or e-mail reginfo@rsna.org.



Chicago's Magnificent Mile



The Art Institute of Chicago



Chicago's picturesque skyline

Exhibitor Service Kit

The Exhibitor Service Kit was mailed this month. It is now on CD-ROM to make it as easy as possible to find registration information, exhibit installation and dismantling hours, rules and regulations, frequently asked questions, and services provided by McCormick Place, The Freeman Companies and RSNA official contractors. The Service Kit will also be available on our Web site at www.rsna.org.

For more information, contact the RSNA Technical Exhibits Department at (630) 571-7851 or exhibits@rsna.org.



Buyer's Guide

Production is under way on the 2002 *Buyer's Guide: Radiology Products and Services*. To ensure that your company and/or product description is included, your information must be received by July 31. The *Buyer's Guide* is the official guide to the commercial exhibits at the annual meeting. It is an important publication used year-round by those who purchase radiology products and services.

Important Exhibitor Dates for RSNA 2002

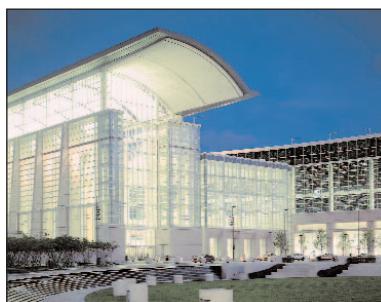
July 31	Product Info Deadline for the RSNA <i>Buyer's Guide</i>
July 31	Deadline for Reduction/Cancellation of Exhibit Space (For Full Refund)
Aug. 16	Deadline for Reduction/Cancellation of Exhibit Space (For Partial Refund)
	Deadline for Final Exhibit Space Payment
	Deadline for RSNAet "Early Bird" Discount
Nov. 25	Target Move-in Begins
Dec. 1-6	RSNA 88 th Scientific Assembly and Annual Meeting

Technical Exhibit Hours

Sun., Dec. 1 – Wed., Dec. 4	10:00 a.m. – 6:00 p.m.
Thurs., Dec. 5	10:00 a.m. – 2:00 p.m.



Education exhibits at RSNA 2001



Chicago's McCormick Place

RSNA 2001 featured 636 companies in 445,925 square feet of exhibit space.

New Refresher Course Track

The Radiology Informatics Symposium is a new feature at RSNA 2002. The symposium is a week-long version of the two-day Integrating the Healthcare Enterprise Symposium. The course material has been modified and expanded to fit into the traditional refresher course structure. The changes in the curriculum enable a coordinated, focused educational experience for informatics in radiology. The symposium, *Radiology*

Leading Medicine's
RSNA 2002
Digital
Transformation

Informatics: Information Management and Enterprise Integration, is designed to complement a newly revised course on PACS and image management. For more information on refresher courses, see the *Advance Registration and Housing, Scientific Program & Refresher Course Enrollment Brochure* that was

mailed in June, or on the Internet at www.rsna.org/rsna/advanceregistration.

Chief Resident Recognition

Each July, RSNA sends a congratulatory gift to all new **chief residents** in the United States. This year, chief residents will receive a special thematic gift acknowledging their accomplishment and congratulating their choice to be involved in radiology. RSNA membership is free to residents and resident members now have free access to the online versions of *Radiology* and *RadioGraphics*.

RSNA is also diligently work-

ing with **program directors** to make sure that all first-year residents take advantage of free membership in RSNA. Residents who submit a completed application by August 15 will receive three complimentary print copies of *Radiology* (October, November, and December 2002) and two complimentary issues of *RadioGraphics* (September – October, November – December 2002).

Easier Online Navigation

Earning CME credit from *RadioGraphics Online* is easier than ever before, thanks to an updated online navigation system. After studying a *RadioGraphics* article, RSNA members can click on “CME test” and be taken directly to a page from which they can choose between the pretest and the actual test for that particular article—no more logging in again and no more searching through a long list of titles.



If you have a colleague who would like to become an RSNA member, you can download an application at www.rsna.org/about/membership/memberapps.html, or contact the RSNA Membership and Subscription office at (630) 571-7873 or membersh@rsna.org.



Patient Education Brochures

RSNA now offers patient education brochures to help patients prepare for various radiologic procedures including mammography, CT of the body, abdominal ultrasound and MR imaging of the musculoskeletal system. A brochure is also available on radiology in general. For more information, call (800) 272-2920. A discount is provided to RSNA members.



InteractED Turns Two

RSNA's online education resource, InteractED, celebrates its second anniversary this month. InteractED offers more than 200 programs for AMA PRA continuing medical education credit, including Refresher Courses, Special Focus Sessions, Cases of the Day, Sunday Image Interpretation Sessions and Education Exhibits from the RSNA Scientific Assembly. Since its inception in July 2000, InteractED has issued about 56,000 CME certificates to more than 6,200 registered individuals. Access to InteractED is free to RSNA members; nonmembers pay \$15 per program (seven-day access). www.rsna.org/education/interactive/index.html

Radiology Publication Marks 25th Anniversary with Donation to R&E Foundation

Contemporary Diagnostic Radiology is celebrating its 25th anniversary this year. To mark the occasion, the newsletter's publisher is donating one dollar for each of its subscribers to the RSNA Research and Education Foundation.

The idea for the donation came from the publication's editor, 1989 RSNA President and 1991 RSNA R&E Foundation Chairman Robert E. Campbell, M.D. Publisher Daniel E. Schwartz, from Lippincott Williams & Wilkins' newsletter division, loved the idea.

FUNDING RADIOLOGY'S FUTURE

"We could think of no better way to celebrate *Contemporary Diagnostic Radiology's* milestone and to thank Dr. Campbell and his legions of loyal readers for their support over a quarter century than with this gift," says Schwartz. "Dr. Campbell is truly passionate about this publication and its mission to consistently deliver the highest quality CME activities for practicing radiologists available anywhere.

I think it's fair to say that his passion for *Contemporary Diagnostic Radiology* is rivaled only by his tireless devotion to RSNA's Research and Education Foundation and its invaluable mission."

The Foundation received a check for \$1,500 in June.

Dr. Campbell became editor of *Contemporary Diagnostic Radiology* 22 years ago following the founding editor, William J. Tuddenham, M.D., who also was the first editor of *Radiographics*.

"Academic radiologists provide the major source of authors for medical text books and other scientific publications," says Dr. Campbell. "I am pleased that Lippincott Williams & Wilkins Co. has recognized the importance of the RSNA Research and Education Foundation, which was founded in 1984, to support radiologists in their pursuit of scholarly activities."

Contemporary Diagnostic Radiology is a bi-weekly newsletter targeted to general radiologists and radiology residents. It provides brief but comprehensive, easily assimilated, well-illustrated reviews of important current topics in diagnostic radiolo-

gy, but is not designed for dissemination of new research findings. With this continuing medical education program, practicing radiologists can review and update their knowledge while earning category 1 CME credits. Radiology residents can use *Contemporary Diagnostic Radiology* as a study program to enhance their in-house training.

Schwartz is challenging

the competition to follow his lead and make a donation to the R&E Foundation. "I sincerely hope it will inspire our colleagues in other medical publishing houses to celebrate their successes with like donations of their own," he says.

To learn more about the donating programs the Foundation has available for corporations, contact Deborah Kroll at (630) 368-3742 or at dkroll@rsna.org. □



UMassMemorial

The Department of Radiology at UMass Memorial/University of Massachusetts Medical School is seeking several faculty members to join an expanding group of dedicated physicians in academic practice. Candidates should be BC/BE in Radiology. Positions in some specialty areas require fellowship training (or CAQ). We are especially interested in candidates with backgrounds in neuroradiology, pediatric imaging, mammography, general abdominal imaging, and interventional radiology. Academic rank and competitive salary will be commensurate with experience. UMass Memorial Health Care is the premier health care provider in central Massachusetts and is the teaching hospital of the University of Massachusetts. The successful candidate will have clinical experience in state-of-the-art diagnostic imaging techniques with an interest in teaching and research. For consideration, please submit a current CV to Myrna Sedowsky, Director, Physician Recruitment, UMass Memorial, 55 Lake Avenue N., Worcester, MA 01655, or email to sedowsky@umvmhc.org.

www.rsna.org

Annual Meeting Registration

Advance registration for RSNA 2002 got off to a strong start on April 29. That day, approximately 575 RSNA and AAPM members registered for the 88th Scientific Assembly and Annual Meeting through *RSNA Link*: www.rsna.org/rsna/advanceregistration/

Many discovered links to travel and other planning resources near the top of registration pages. They include:

“Helpful Links,” which point to restaurant, weather and transportation sites; the Web sites of the Field Museum, Sears

Tower, John Hancock Building and The Art Institute; and guides such as the City of Chicago’s official Web site. Another planning resource, “Chicago City Guide,” which is maintained by the Chicago Convention and Tourism Bureau, includes event highlights, a list of nightclubs, a “Send a Chicago Post Card” page and historical and current information about Chicago. For international travelers, it lists average flight times to Chicago, consulates and local translation services. It also has apparel conversion tables (useful for shopping) and an average-temperature chart.

“Helpful Links” and “Chicago City Guide” each launch in a separate browser window so you can explore the external sites while the registration site remains in its own window.



Two New Features

RSNA Link has two new features in its “Annual Meeting” section—a transportation guide and an invitation letter. The transportation guide lists shuttle-bus hours of operation and boarding and drop-off locations at McCormick Place and city hotels, along with information about airport transportation, taxis and private charters.

www.rsna.org/rsna/tguide/

International registrants who must apply for a visa to travel to the United States will find an invitation letter to attend RSNA 2002 at:

www.rsna.org/rsna/letter.html

You can print out a generic “Dear Colleague” letter from RSNA Executive Director Dave Fellers, C.A.E., or customize it with your name and address through your Web browser. You no longer have to wait to receive an invitation letter by mail.

CME Repositories

RSNA Link now has two CME repositories. The original CME Repository, which is open to member and nonmember users of InteractED, has been renamed InteractED CME Repository.

www.rsnainteract.org/cme/sitenew/repository.asp

The new RSNA CME Credit Repository opened in May. For RSNA members only, it encompasses all RSNA direct-sponsored AMA category 1 and category 2 credit activities from January 1, 1999, to the present, including InteractED. The RSNA CME Credit Repository will also contain RSNA joint-sponsored AMA category 1 credit activities from January 1, 1999, to the present.

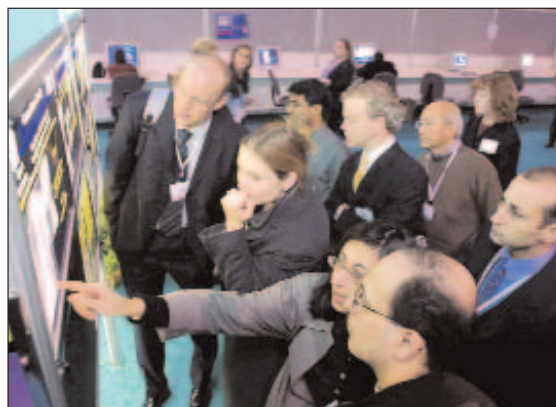
www.rsna.org/cme/

New Courses on InteractED

In May, three refresher courses were added to InteractED making more than 34 refresher programs available.

- How to Organize and Run a Successful Mammography Practice: Private Clinic Setting (Wende Logan-Young, M.D.)
- How to Organize and Run a Successful Mammography Practice: Hospital-Based Office Practice Setting (Ellen B. Mendelson, M.D.)
- Economics of Breast Imaging (William R. Poller, M.D.)

Each course is peer-reviewed and can be claimed for 0.5 hour of AMA category 1 credit.



Attendees view Cases of the Day at RSNA 2001.

New Cases of the Day

Two groups of Cases of the Day were also posted on InteractED in May making 21 programs available.

- Chest (Lacey Washington, M.D., Coordinator)
- Ultrasound (John P. McGahan, M.D., Coordinator)

Each group of five cases is peer reviewed and is offered for one hour of AMA category 1 credit.

Medical Meetings

September – November 2002

SEPTEMBER 10-15

American Society of Head and Neck Radiology (ASHNR), 36th Annual Meeting and Symposium, Cleveland Renaissance Hotel, Cleveland • (630) 574-0220 x226 or www.ashnr.org

SEPTEMBER 19-20

Radiological Society of the Netherlands, Annual Meeting • www.radiologen.nl

SEPTEMBER 20-22

Canadian Association of Radiologists (CAR), 65th Annual Scientific Meeting, Chateau Mont Sainte-Anne, Beaupre, Quebec • www.car.ca

SEPTEMBER 22-25

Second International Symposium on Tumor Targeted Delivery Systems, NIH and Doubletree Hotel, Bethesda • www.controlled-release.org/meetings/fall/tumorsymp.htm

SEPTEMBER 25-28

International Skeletal Society, The Swissotel, Istanbul, Turkey • www.intskelsoc.com

SEPTEMBER 25-29

American Osteopathic College of Radiology (AOCR), Annual Convention, The Westin Bayshore, Vancouver, British Columbia • www.aocr.org

SEPTEMBER 26-28

Society of Chairmen of Academic Radiology Departments (SCARD), 2002 Fall Meeting, Loews Miami Beach Hotel, Miami • www.aur.org/scard

SEPTEMBER 28-OCTOBER 2

American College of Radiology (ACR), Annual Meeting, Loews Miami Beach Hotel, Miami • (703) 716-7545

OCTOBER 3-7

Royal Australian & New Zealand College of Radiologists, 53rd Annual Scientific Meeting, Adelaide Convention Centre, Adelaide, South Australia • www.ranzcr.edu.au

OCTOBER 6-9

Society of Radiation Oncology Administrators (SROA), 19th Annual Meeting, Hotel Intercontinental, New Orleans • (866) 458-SROA

OCTOBER 6-9

American Society of Radiologic Technologists (ASRT), Ernest Morial Convention Center, New Orleans • www.asrt.org

OCTOBER 6-10

Association of Residents in Radiation Oncology (ARRO), Ernest Morial Convention Center, New Orleans • (800) 962-7876

OCTOBER 6-10

American Society for Therapeutic Radiology & Oncology (ASTRO), 44th Annual Meeting, Ernest Morial Convention Center, New Orleans • (800) 962-7876

OCTOBER 12-16

XXI Interamerican Congress of Radiology, CIR2002, Hilton Hotel, Cartagena, Colombia • asor@epm.net.co

OCTOBER 18-19

Advanced Course in Grant Writing, RSNA Headquarters, Oak Brook, Ill. • (630) 368-3758 or ord@rsna.org

OCTOBER 19-21

American College of Radiology Imaging Network, Ritz-Carlton, Pentagon City, Arlington, Va. Contact: Irene Mahon at (215) 574-3150

OCTOBER 23-27

Academy of Molecular Imaging, 2002 Annual Conference, Sheraton Hotel and Marina, San Diego • www.ami-imaging.com

OCTOBER 25-27

Society of Radiologists in Ultrasound (SRU), Grand Hyatt San Francisco, San Francisco • www.sru.org/meeting/

NOVEMBER 8-13

Association of American Medical Colleges (AAMC), Hilton San Francisco & Towers, the Westin St. Francis and the Renaissance Parc 55, San Francisco • (202) 828-0400

NOVEMBER 30

How to Write a Good Grant Application (prior to RSNA 2002), McCormick Place, Chicago • (630) 368-3758 or ord@rsna.org

DECEMBER 1-4

Introduction to Research (during RSNA 2002), McCormick Place, Chicago • (630) 368-3758 or ord@rsna.org

DECEMBER 1-6

RSNA 2002, 88th Scientific Assembly and Annual Meeting, McCormick Place, Chicago • www.rsna.org