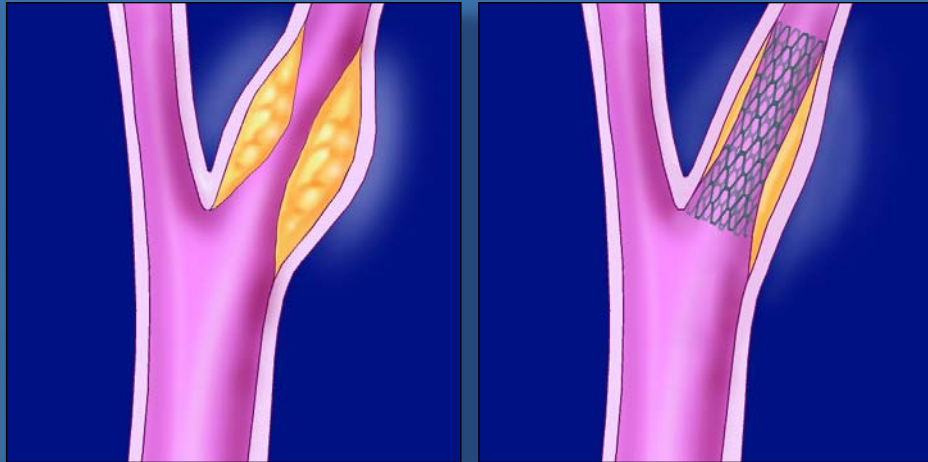


RSNA *News*



Carotid Stenting to Have Major Impact on Interventional Radiology

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- Routine Chest Radiographs Could Improve Osteoporosis Care
- Transcriptionist as Editor Helps Radiology Report Process
- Radiology Needs More Women, Expert Says
- The Amazing X-Ray in Advertising

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McClennan New *RSNA News* Deputy Editor

Bruce L. McClennan, M.D., a professor of diagnostic radiology at Yale University School of Medicine and chief of body CT at Yale New Haven Hospital, has accepted the newly created position of deputy editor of *RSNA News* and vice-chairman of the *RSNA News* Editorial Board.

"I am thrilled to serve *RSNA News*," says Dr. McClennan. "One of the things that continues to impress me about *RSNA News* is its readability and

breadth of coverage. It's an increasingly valuable publication for our members."

An RSNA member since 1975, Dr. McClennan has been very active in the Society. He has been a member of the Scientific Program Committee, has been a categorical course director for the annual meeting, and has served on a variety of public information committees. Dr. McClennan is currently the chairman of the Public Relations Committee for the RSNA Research & Educa-

tion Foundation.

Dr. McClennan is the author or co-author of more than 130 scientific papers and three dozen books or book chapters. He has been a reviewer and/or has been a member of the editorial boards of 10 leading peer-reviewed journals, including *Radiology* and the *American Journal of Roentgenology*. In 1994, he earned the *Radiology* Editor's Recognition Award with Distinction.

"Dr. Susan Wall and the *RSNA News* Editorial Board



Bruce L. McClennan, M.D.

members have done a great job reflecting readership interest in this publication," he says. "The slope of its success curve is positive and steep. I hope to contribute to its continued success."



Giuliani, Hricak Participate in Chicago Radiology Event

Former New York City Mayor **Rudolph Giuliani** and RSNA Board Liaison **Hedvig Hricak, M.D., Ph.D.**, participated in an evening event during RSNA 2003 in which one of the exhibitors, CPS Innovations, introduced its new PET/CT system. The event was held at Chicago's Field Museum.



Alberts, Augustine to Co-Chair NIH Panel on Conflict of Interest Policies

The co-chairs have been named to the National Institutes of Health (NIH) Blue Ribbon Panel on Conflict of Interest Policies, which will examine the guidelines governing consulting activities of NIH scientists.

The co-chairs are **Bruce Alberts, Ph.D.**, a respected biochemist and president of the National Academy of Sciences; and **Norman R. Augustine**, chairman of the executive committee of Lockheed Martin and a former undersecretary of the U.S. Army.

The panel planned to meet in early March.



Story Ideas Welcome

RSNA News encourages readers to submit story ideas and suggestions to rsnanews@rsna.org.

RSNA News

FDA Cautions Against Ultrasound Keepsake Videos

In the January-February issue of *FDA Consumer Magazine*, the Food and Drug Administration is warning women about the potential hazards of keepsake videos of their unborn babies. These videos use the latest ultrasound technology to produce high-resolution 3D and 4D images showing the surface anatomy of babies developing in the womb.

“While ultrasound has been around for many years, expectant women and their families need to know that the long-term effects of repeated ultrasound exposures on the fetus are not fully known,” the FDA writes. “In light of all that remains unknown, having a prenatal ultrasound for non-medical reasons is not a good idea.”

The agency is also warning companies against creating these videos for entertainment purposes.

To see the article, go to www.fda.gov/fdac/features/2004/104_images.html.



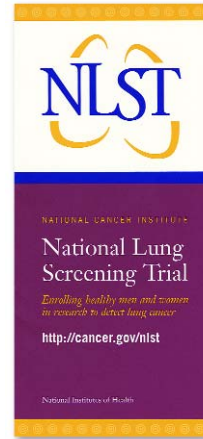
National Lung Screening Trial Reaches Goal of 50,000 Participants

The National Cancer Institute (NCI) and the American Cancer Society report that they’ve met their enrollment goal of 50,000 current or former smokers in the National Lung Screening Trial (NLST).

The study, launched in September 2002, is designed to determine if screening with either spiral CT or chest x-ray before the appearance of symptoms can reduce deaths from lung cancer. Although the trial has reached its enrollment goal, it remains open at select

sites to collect blood, urine and phlegm to help doctors identify biomarkers, or tumor markers, of lung cancer.

“Reaching this goal is a tremendous first step in our efforts to learn as much as we can about lung cancer screening,” says NCI Director Andrew von Eschenbach, M.D. “This is a critically important trial and a rapid accrual means we’re moving quickly forward to obtain answers about screening. This is very encouraging.”



DEAR EDITOR:

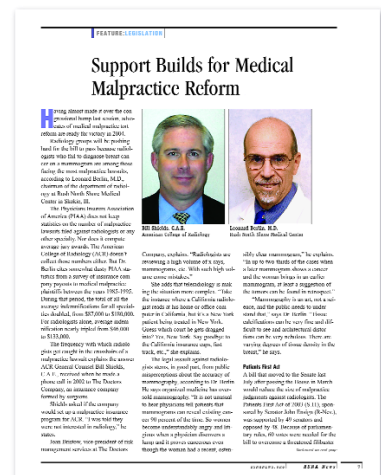
I read with interest the recent feature “Support Builds for Medical Malpractice Reform” in the January issue. While the General Accounting Office report disputes the American Medical Association’s contention that spiraling malpractice rates are forcing physicians out of medicine or to relocate, I think it is presumptuous to summarily dismiss that this crisis has no effect on the career and life choices of physicians.

In addition to the AMA statistics mentioned in the article and the sidebar, a recent poll conducted by a physician recruiting service showed that over half of the physicians aged 50-65 expect to curtail clinical activity or opt out completely over the next three years. And 75 percent of those polled specifically cited the liability crisis as a

contributing factor (*Medical Economics*, Jan. 23, 2004).

While some may discount the impact of the liability crisis on choices physicians make about whether or not to continue practicing, and to what level and complexity, the figures from the above poll and others I’ve seen in past months suggest to me that many physicians are not happy with the current situation and are pondering their options. And even if the above statistics somewhat exaggerate the potential exodus of physicians from medicine, any loss will exacerbate the projected shortage of practicing physicians.

JAMES BRADLEY SUMMERS, M.D.
DEPARTMENT OF RADIOLOGY
UNIVERSITY OF SOUTH ALABAMA



Roberts Earns NASA Grant

Donna Roberts, M.D., M.S., from the Medical University of South Carolina, has received a grant from the National Aeronautics and Space Administration (NASA) and the European Space Agency as part of an international collaborative study using a bedrest model for microgravity. Beginning in January next year, 24 people will spend 60 days in bed in Toulouse, France.



Donna Roberts, M.D., M.S.

“I am very excited about this award and am grateful to the RSNA Research & Education Foundation for making it possible,” says Dr. Roberts, who was an RSNA Research Resident and an RSNA Holman Pathway Research Resident Seed Grant recipient. “With the Resident Seed Grant, I obtained preliminary data which I used in a grant application to NASA. This new study is even more urgent following President

Bush’s recent announcement of plans for long-term human space missions including a lunar base and a Mars mission.”

The collaborative study will, for the first time, examine the potential effects of microgravity on the cerebral cortex of astronauts.

“We plan to investigate cortical changes in this bedrest model of microgravity with the future goal of developing countermeasures to protect astronauts on long duration missions,” Dr. Roberts says. “Ground-based human research has shown that, even in adults, cortical changes can be documented within days following alterations in motor activity. It is likely that cortical motor map reorganization occurs as an adaptive response to microgravity.



Although this adaptation may be useful in a microgravity environment, it may not be optimal for operations on a planetary surface, such as Mars or the Moon, or for return to Earth. The identification of cortical plasticity and its relationship to astronaut performance is a critical step in preparing for future long-term human space habitation.”

She adds that the study could also lead to improved rehabilitation of patients suffering from brain injury.

Grossman Joins NIBIB Advisory Council

Robert I. Grossman, M.D., the Louis Marx Professor and chairman of the Department of Radiology at the New York University School of Medicine, has been appointed to serve on the advisory council for the National Institute of



Robert I. Grossman, M.D.

Biomedical Imaging and Bioengineering (NIBIB). The council provides recommendations on the conduct and support of biomedical imaging and bioengineering research and research training.

Dr. Grossman is the senior editor of *American Journal of Neuroradiology* and associate editor of *Magnetic Resonance in Medicine*. His research interests are in multiple sclerosis, head trauma and orbital imaging.



UNC Professor Appointed to FDA Panel

Charles Burns, M.S.P.H., R.T.(R), a professor in the Departments of Radiology and Medical Allied Health Professions at the University of North Carolina School of Medicine, has been appointed as a consumer representative to the FDA’s Radiological Devices Panel.

Burns is also a member of the American Society of Radiologic Technologists House of Delegates.



Charles Burns, M.S.P.H., R.T.(R)

Former Siemens Executive to Lead Kodak’s Health Imaging Group

Roger L. (Vern) Davenport, M.B.A., has been named vice-president of health imaging for Eastman Kodak and regional business general manager for Kodak’s U.S. and Canadian regions.

Davenport was formerly a senior executive at Siemens Medical Solutions USA.



Robert P. Cavallino, M.D.



Bahman Emami, M.D.



Ellen B. Mendelson, M.D.



Steven J. Smith, M.D.



Robert Vogelzang, M.D.

Six RSNA Members Named “Chicago’s Best”

Chicago magazine has released its list of the top doctors in the city, as chosen by their peers. Six RSNA members are among them. They are:

Robert P. Cavallino, M.D., chairman of the Radiology Department at Advocate Illinois Masonic Medical Center and professor of radiology at Rush University

Bahman Emami, M.D., professor and chairman of the Department of Radia-

tion Oncology, and professor of otolaryngology at Loyola University Medical Center

Ellen B. Mendelson, M.D., director of breast imaging at the Lynn Sage Breast Cancer Center at Northwestern University

Albert A. Nemcek Jr., M.D., associate professor at Northwestern University from the sections of vascular and interventional radiology and cardio-

vascular imaging

Steven J. Smith, M.D., interventional radiologist at LaGrange Memorial Hospital and clinical associate in diagnostic radiology at Northwestern University

Robert Vogelzang, M.D., professor of radiology at Northwestern University Medical School and chief of vascular and interventional radiology at Northwestern Memorial Hospital

Sullivan New Chair of BECON

Daniel C. Sullivan, M.D., associate director of the Cancer Imaging Program at the National Cancer Institute (NCI), has been named chairman of the Bioengineering Consortium (BECON).

He succeeds Jeffery Schloss, Ph.D., of the National Human Genome Research Institute.

The Consortium consists of senior-level representatives from the NIH institutes, centers and divisions plus representatives of other Federal agencies concerned with biomedical research and development. BECON is administered by the National Institute of Biomedical Imaging and Bioengineering.



Daniel C. Sullivan, M.D.

ASNR Awards Gold Medals to Kieffer, Heinz

Stephen Kieffer, M.D., and **E. Ralph Heinz, M.D.**, will receive the American Society of Neuroradiology (ASNR) gold medal in June at the society’s annual meeting in Seattle.

While chairman of the Radiology Department at the State University of New York at Syracuse, Dr. Kieffer spearheaded much of the early clinical research in CT of the spine. He also helped to convince ASNR to become more involved in clinical outcomes studies.

Dr. Heinz was a pioneer in many of the basic diagnostic techniques and interventional procedures that are now commonplace in neuroradiology. He was one of the foremost proponents of neuroradiology as a subspecialty and helped play an important role in improvement of myelography and neuroangiography techniques and contrast agents, including pioneering work in water-soluble myelography contrast material and digital subtraction angiography.



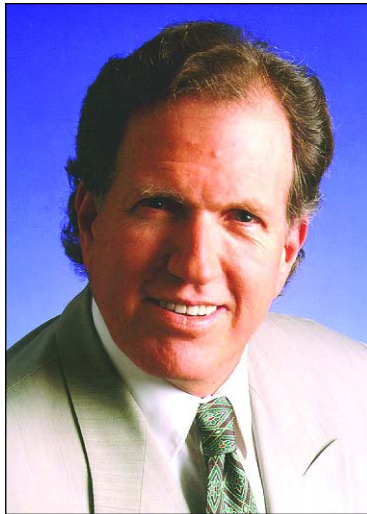
Carotid Stenting to Have Major Impact on Interventional Radiology

Early studies show that carotid artery stenting (CAS) is as effective as carotid endarterectomy in relieving carotid obstruction in high-risk patients. As a result, interventional radiologists are being urged to learn everything they can about CAS.

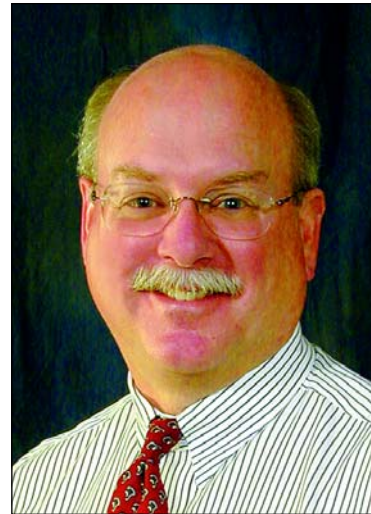
Barry T. Katzen, M.D., founder and medical director of the Miami Cardiac and Vascular Institute at Baptist Hospital, says the latest results of the Stenting and Angioplasty with Protection in Patients at High Risk for Endarterectomy (SAPPHIRE) trial show that CAS with embolic protection is a viable option for high-risk patients.

“Until this study was presented last September, the performance of CAS in hospitals in the United States was considered investigational,” he says. “As a result of the SAPPHIRE trial data and the fact that FDA approval is being sought, we’re probably going to have CAS as a treatment alternative. CAS is going to have a tremendous impact on the interventional radiology community. It’s time to become prepared to start doing it.”

Dr. Katzen presented a refresher course on the topic at RSNA 2003, and because few interventional radiologists have clinical experience with CAS, Dr. Katzen has planned and will moderate a half-day CAS symposium on March 25, the first day of the Society of Interventional



Barry T. Katzen, M.D.
Miami Cardiac and Vascular Institute at Baptist Hospital



Steven L. Dawson, M.D.
Massachusetts General Hospital

Radiology (SIR) annual meeting in Phoenix.

“A good part of the program will be directed at the necessary training, the minimum necessary skills and the acquisition of those skills,” says Dr. Katzen. “We think that carotid stenting is going to be an extremely important part of the interventionalist’s armamentarium. Someone in the hospital is going to be doing it, since interventional radiologists have an interest in cardiovascular disease and angioplasty, then they should learn as much as they can.”

A second study on the benefits of CAS was released in early February at a joint meeting of the American Society

of Neurological Surgeons and American Society on Intervention Therapy Neuroradiology in San Diego. Ricardo A. Hanel, M.D., a neurovascular fellow from the University at Buffalo reported that there were no neurological complications from CAS in a study involving 21 patients.

Dr. Hanel also reported that the FDA would approve CAS for both primary and secondary carotid stenosis by 2005.

Simulator Training

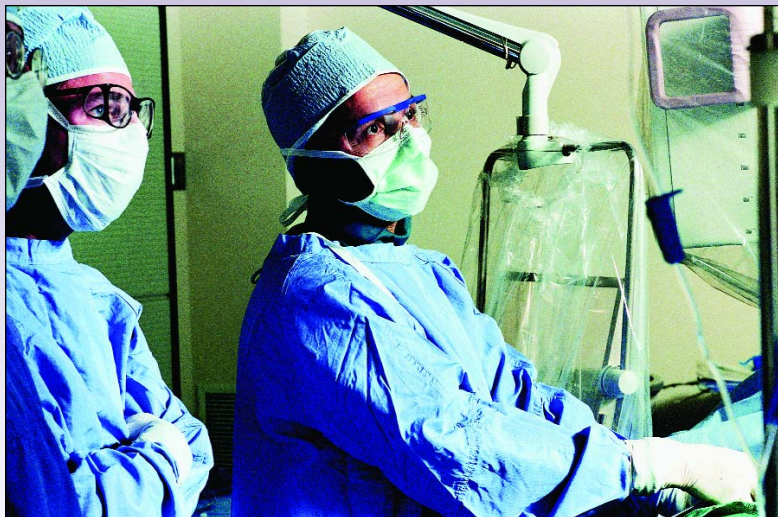
A portion of the CAS symposium at the SIR annual meeting will be devoted to the discussion of simulator training. Dr. Katzen says simulator training will soon be an important addition to the didactic, observational and proctoring components of training.

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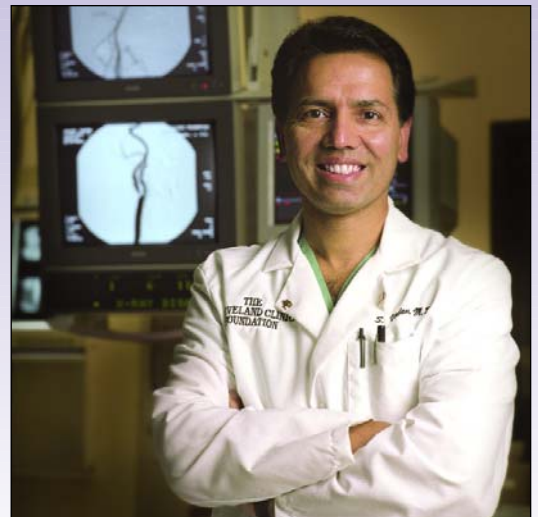
Carotid artery stenting is going to have a tremendous impact on the interventional radiology community.

It's time to become prepared to start doing it.

Barry T. Katzen, M.D.



Jay S. Yadav, M.D., (right) performs a carotid artery stenting procedure at the Cleveland Clinic Foundation.



Dr. Yadav, in the catheterization laboratory at the Cleveland Clinic, is the lead author of the SAPPHIRE study.

Continued from previous page

“An interventional radiologist may have performed a lot of iliac or renal stenting and maybe some cerebral angiography work,” says Dr. Katzen. “But how is he or she going to get experience, especially in an era of MR angiography?” An era, he says, that has physicians performing fewer diagnostic angiographies and therefore getting less hands-on experience.

Discussion about simulator training will be led by Steven L. Dawson, M.D., an interventional radiologist at Massachusetts General Hospital and Harvard University Medical School in Boston. Dr. Dawson says simulators will play a major role in what he predicts will be a rapid shift to CAS.

“Until now there hasn’t been a real good way to train in these techniques without using humans, which presents enormous risks,” explains Dr. Dawson. “What has been going on in related fields—cardiology, orthopedics and gynecology—is that simulators are being developed to give people their

initial experience and to present them with difficult cases on which they can practice.”

One CAS simulator model is currently on the market. It is a device which Dr. Dawson and his colleagues originally designed as a cardiology simulator. The system was adapted to include carotid simulation. The Harvard group is refining and improving the

I think in the future we’ll see [simulator] training become routine in procedural specialties such as interventional radiology and neuroradiology.

Steven L. Dawson, M.D.

concept to provide what Dr. Dawson calls “more realistic” training using real catheters and guidewires connected to a computer.

“You insert the instrument into a tracking device, which registers the position of the instrument and its orientation as it is manipulated,” explains Dr. Dawson. “The tracking device is linked to a computer display. You look at a screen just as you would look at a fluoroscope in the catheter lab, and move the instruments just as you would in the patient. It’s a very natural experience.”

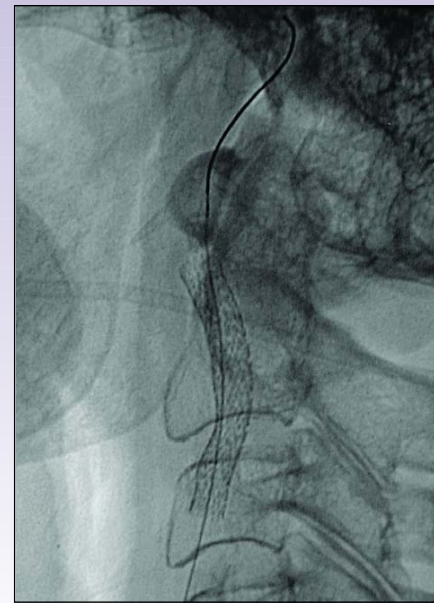
Dr. Dawson says the new system should be ready for trials in two to

three years. The next step will be for a few leading institutions to install the simulators so they can be field tested. “I think this is part of how radiology is reevaluating all of its educational programs, and I think in the future we’ll see this type of training become a routine in procedural specialties such as interventional radiology and neuroradiology,” he adds.

The SAPPHIRE study, presented last September at the Transcatheter Cardiovascular Therapeutics Symposium, is the first multicenter, randomized trial comparing CAS and carotid endarterectomy in high-risk patients. Lead author Jay S. Yadav, M.D., director of vascular intervention at the Cleveland Clinic Foundation, says the future of carotid stenting looks very promising.

“The results of the SAPPHIRE trial demonstrate that in high-risk patients, this less invasive procedure is at least as good as traditional surgery,” says Dr. Yadav. “We need to do further studies in low-risk patients as well. I think this offers a great opportunity for all physician interventionalists to provide treatment options to patients who previously did not have such options.”

Dr. Yadav defines high-risk patients



Images from SIR, courtesy of Philippe E. Gailoud, M.D., from Johns Hopkins Medical Institute.

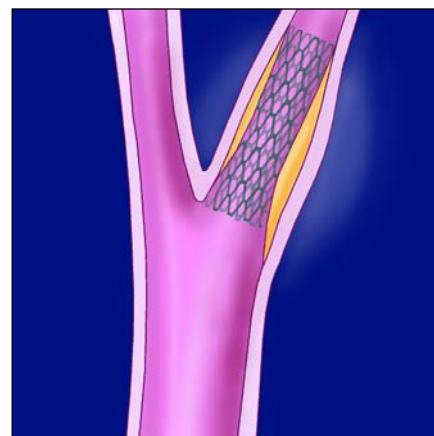
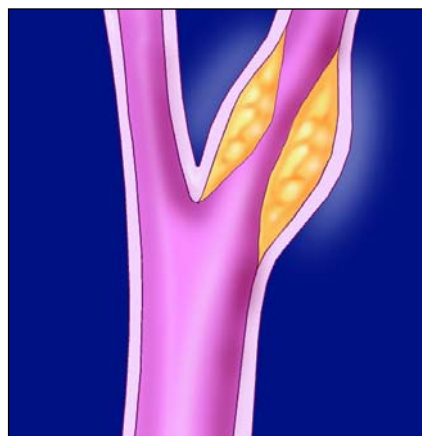
A sequence of radiographic images of a stroke patient. The left image shows the blockage (arrow). The center image was taken during the stenting procedure. The right image is post-procedure showing the blockage gone and the blood pathway open.

as those with:

- Previous endarterectomy
- Severe heart disease
- Severe lung disease
- Previous radiation therapy
- Lesions above the mandible or below the clavicle

One year after the start of the trial, CAS continued to show excellent results. “The rate of stroke, myocardial infarction and death was lower in patients who underwent CAS using the PRECISE® stent with AngioGuard™, a distal protection device, than in patients who underwent carotid endarterectomy—12.0 percent vs. 20.1 percent respectively,” explains Dr. Yadav, the inventor of AngioGuard.

Dr. Katzen says recent improvements in technique and procedure are changing the face of interventional radiology. “Companies have been developing specific technology for carotid stents—technology that is different from coronary, iliac artery and renal artery stents. They have also developed embolic protection devices that guard the brain from fragments that break loose during stenting,”



©Society of Interventional Radiology.

(left) Medical illustration of a blocked carotid artery. (right) The artery is reopened with a stent.

he explains. “I believe that carotid stenting is going to have a major impact on how carotid artery stenoses are treated in the future.

The involvement and training of interventional radiologists will be critical to ensure their future participation in this new area of endovascular therapy.” □



For more information on SIR and the 2004 meeting, “The World of Intervention,” go to www.SIRweb.org.

Ultrasound Research Interface Connects Clinician, Researcher

A newly developed ultrasound research interface (URI) encourages working alliances between geographically dispersed basic scientists and clinicians.

"The URI allows data to be collected with little delay and no additional apparatus, so it plays well in the clinic," says Stephen A. McAleavey, Ph.D., a research associate in the Department of Biomedical Engineering at Duke University in Durham, N.C. "At the same time, it provides a rich data set for offline signal processing and experimentation."

The project is sponsored by the National Cancer Institute's (NCI) Cancer Imaging Program. "There is a whole community of bioengineering out there that will benefit from strong clinical alliances connecting instruments that are routinely used in diagnostic clinical practice and that do not interfere with that process," says C. Carl Jaffe, M.D., chief of the diagnostic imaging branch at NCI.

Dr. Jaffe says the recognition that a great deal of the original ultrasound signal had yet to be explored led to the URI's conception. "We knew that wider investigations could be conducted if a high-end clinical ultrasound imaging machine could be equipped with an interface that allowed access to the data signal stream while permitting conduct of standard diagnostic imaging procedures," he explains. "NCI wants to see that clini-

cians and bioengineers cooperate more closely in pursuit of common research goals and open basic science opportunities with the goal of 'bench-to-bedside' research."

The interface is intended to allow biomedical engineers as well as clinical and physics researchers to develop innovative new research protocols and ways of interacting in flexible research groups. The concept will also enlarge the research community that can explore ultrasound characterization of specific diseases and extend ultrasound use into contrast materials development, signal processing and tissue characterization.

"Duke has had custom-built RF acquisition facilities for some time, but the URI is easier to use and allows a number of experiments to be performed more rapidly," Dr. McAleavey says.

"Its simplicity allows students to collect data without having to climb a steep learning curve. We have been very pleased with the URI so far and look forward to its release as a full-fledged product."

NCI expects that the ultrasound research interface will energize and open up new fundamental ultrasound signal research with clinical implications—just as access to MR pulse sequences have done for MR imaging research.

"I imagine the URI will be used by a number of university labs," Dr. McAleavey predicts. "While sites that already have RF acquisition capabilities will be interested in the machine, I



C. Carl Jaffe, M.D.
Chief, NCI Diagnostic Imaging Branch

think sites that have no RF access at the moment will be especially excited by the URI and the possibility of gathering data without having to invest a great deal of time and effort building specialized hardware."

Demonstrations at RSNA 2003

The URI was demonstrated in the *infoRAD* area at RSNA 2003.

"For the demonstration we captured some color Doppler data from a flow phantom and transferred it to a laptop computer with processing tools developed at the University of California, Davis," Dr. McAleavey explains. "In a matter of seconds we had taken raw RF data from the machine and produced a Doppler image of the flow phantom created with the raw data. Rather than just having an endpoint, they had all of the signal processing steps in between."

He says attendees were impressed. "The clinicians were enthusiastic about their amount of control and ability to get data of this quality out of the

Continued on page 10

NCI wants to see that clinicians and bioengineers cooperate more closely in pursuit of common research goals and open basic science opportunities with the goal of "bench-to-bedside" research.

C. Carl Jaffe, M.D.

Routine Chest Radiographs Could Help Improve Osteoporosis Care

Routine chest radiographs could be used to screen patients for osteoporosis-related vertebral fractures, especially patients over 60 years old in whom the prevalence of such fractures approaches 25 percent, according to researchers from the University of Alberta in Edmonton, Canada.

“The presence of a vertebral fracture mandates treatment because it is a marker for significant risk for sustaining future fractures. By either improving routine reporting of the fractures or using automated digital morphometry to detect the fractures, we may have the opportunity to improve the quality of osteoporosis care,” says Nancy Kim, M.D., who presented the information with a scientific poster at RSNA 2003.

To determine the potential usefulness of chest radiographs in detecting clinically important vertebral fractures, the investigators randomly selected digital chest radiographs of 100 patients over 60 years old who had presented to the emergency department at a large tertiary care teaching hospital at the University of Alberta. They selected the radiographs without any knowledge of the presenting reason for the chest exams.

Two experienced, board-certified radiologists and a radiology resident trained to identify vertebral fractures on radiographs then conducted an independent review of the selected chest radiographs. The reviewers were blinded to each other’s findings and to the original radiology report for each patient.

The researchers also used an automated form of vertebral morphometry



Nancy Kim, M.D., presented her data during a scientific poster session at RSNA 2003.

to evaluate the radiographs for clinically important vertebral fractures, which they defined as moderate to severe wedge, crush or biconcave fractures that resulted in a loss of height of approximately 25 percent or greater.

They found that the prevalence of moderate to severe vertebral fractures among the 100 patient radiographs studied was 22 percent. However, only

12 of the 22 fractures were mentioned in the original radiology reports. The mean age of the patients was 76. Forty-nine percent were women and 44 percent were admitted to the hospital.

Agreement about the findings among the reviewers, regardless of experience, was 87 to 88 percent. Most interestingly, agreement was greatest between the most experienced radiologist—a reference standard radiologist with experience in osteoporosis clinical

trails—and the automated morphometry evaluations.

“Routine chest radiographs have the potential to be a screening tool for detecting osteoporosis-related vertebral fractures,” says Dr. Kim. “Almost half of all moderate to severe fractures in our study were not included in the original report. In general, radiologists are focused on looking for acute problems on the chest radiograph, such as congestive heart failure or pneumonia, which would explain why the patient presented to a hospital. Unfortunately, compression fractures are often not mentioned on the report. Even though they are seen, they are thought of as incidental findings unrelated to the patient’s current illness.”

Osteoporosis affects about 20 million people in the United States, most of them women, and the cost to society is estimated at \$3.8 billion yearly. Osteoporosis patients who sustain one fracture anywhere in the body are predisposed to a 20 percent higher risk of

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Routine chest radiographs have the potential to be a screening tool for detecting osteoporosis-related vertebral fractures.

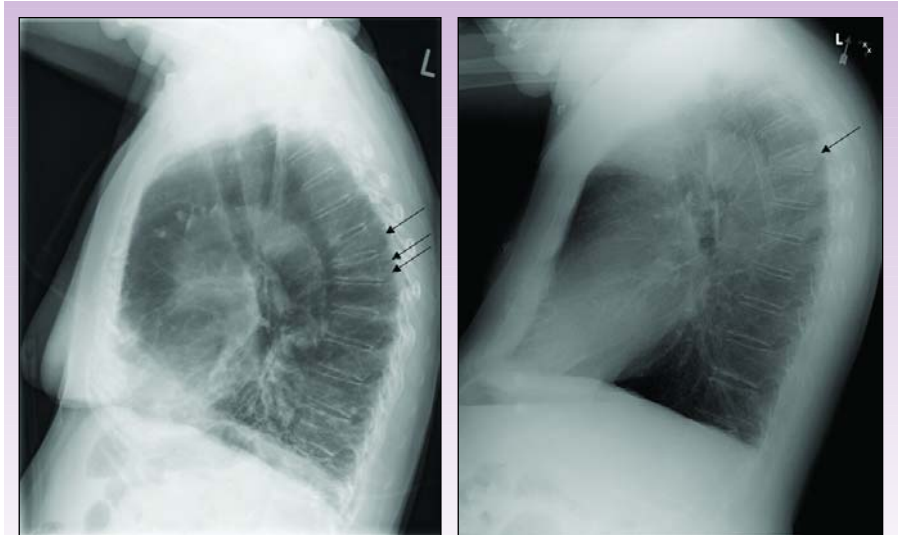
Nancy Kim, M.D.

Continued from previous page

developing a further fracture, Dr. Kim says.

“Using chest radiographs as a screening tool can be cost-effective. There is no extra financial burden on healthcare resources because the exam was done for an unrelated reason,” she notes. “It just takes seconds to screen for fractures. More than anything, I believe that we need to raise awareness that the existence of vertebral fractures significantly increases an individual’s future risk for subsequent fractures.” □

Note: This article was adapted from a feature in the RSNA 2003 Daily Bulletin.



(left) Lateral chest x-ray of a 77-year-old woman with a mild (single arrow) and a moderate (double arrow) vertebral fracture. (right) Lateral chest x-ray of a 75-year-old man with a severe vertebral fracture

Images courtesy of Nancy Kim, M.D.

Ultrasound Research Interface Connects Clinician, Researcher

Continued from page 8

machine. They also liked button-click operation,” Dr. McAleavey adds.

Dr. Jaffe is encouraging RSNA members to participate in the project by learning about the opportunities that alliances with bioengineers offer. These alliances permit scientific investigations of the ultrasound signal analysis in the clinical, disease-focused setting and not mere clinical observations made from routinely acquired, clinical images.

Siemens plans to release the URI in early August 2004 as part of its Antares™ 3.0. At that time, a Web address will be made available for a site maintained by UC Davis that provides the software features for download.

“The UC Davis people will maintain this as an open source set of tools for URI users. The files can be modified and suggestions for improvement can be returned to Davis,” says Dr. McAleavey.

He adds that URI-Field II interface developments will allow offline simulations of the RF acquisition. “Using the



The Ultrasound Research Interface is expected to be released in early August as part of Siemens SONOLINE Antares™ system. At that time, a Web address will be made available for a site maintained by UC Davis that provides the software features for download.

data included in the URI header, we can configure Field II to simulate a probe with the same geometry and beam characteristics as that used in the

RF acquisition. This capability allows us to match simulations to experiments,” Dr. McAleavey explains. □

Transcriptionist as Editor Improves Radiology Report Process

If you want to decrease the turn-around time of your radiology reports without impacting your workflow, try letting your medical transcriptionist edit reports you generate from speech-recognition software.

A study, presented as a scientific paper at RSNA 2003, found that when compared with typing a report from dictation, a transcriptionist's productivity improved significantly when he or she edited a draft text report that had been produced with speech-recognition software. At the same time, the quality of the report remained unchanged.

"As we all are experiencing now, there are multiple forces driving the redesign or reengineering of radiology operations," says Lisa A. Intriere, M.D., M.B.A., from the Department of Radiology at Brigham and Women's Hospital in Boston. "We are experiencing increasing imaging volume, increased cost-containment pressures, decreasing reimbursement, and increased customer-service demands from physicians, hospitals, referral banks and patients—which all adds up to doing more with less at the same level of quality and service."

For the study, 17 medical transcriptionists were asked to transcribe 20,837 dictated reports from 138 physicians over a 23-month period. In the same time period, they were also asked to edit the errors they found in 109,090 draft text reports from the same physicians that were generated using commercial speech-recognition software designed for medical transcriptionists working in an academic

teaching hospital radiology department.

"There is a limited pool of transcriptionists currently in the nation with variable service and performance levels," Dr. Intriere says, adding that transcribing from dictated reports is labor and cost intensive.

Two types of speech-recognition systems are available: real-time automatic speech-recognition systems, which require the radiologist to act as editor of the entire report produced, and background-service speech-recognition systems, which shift the role of the transcriptionist from typist to editor.

The researchers at Brigham and Women's used the background-service system because it does not have an impact on the radiologist's workload. Radiologists simply have to edit the final reports, as they have done in the past.

When comparing the results, the investigators used two primary out-

We are experiencing increasing imaging volume, increased cost-containment pressures, increased customer-service demands...and decreasing reimbursement, which all adds up to doing more with less at the same level of quality and service.

Lisa A. Intriere, M.D., M.B.A.

come measures: the mean line count per hour per transcriptionist (defined as the line count of the final transcription divided by the total time the document was open to transcription) and the mean number of edits made by radiolo-



Lisa A. Intriere, M.D., M.B.A.
Brigham and Women's Hospital, Boston

gists on the typed versus the edited reports.

When the transcriptionists functioned as editors, their productivity increased 64 percent to 137 percent, depending on the individual transcriptionist, versus when they functioned as typists. There was a marked increase in editing speed in the first six months of the study, and then the transcriptionists' editing speed tended to level off. Meanwhile, the number of edits the radiologists made on the final reports was approximately the same whether the reports were typed or edited by the transcriptionists, indicating that the quality of the work was the same. Thus, the radiologists did not have to do any extra work. □

Note: This article was adapted from a feature in the RSNA 2003 Daily Bulletin.

Radiology Needs More Women, Expert Says

An expert on career development and diversity is urging the radiology community to look at why women medical students are not selecting radiology at a higher rate, and take steps to help women see that radiology offers a great career.

“Radiology is unique among the specialties in not increasing its proportion of women at the residency level,” says Janet Bickel, M.A., a former associate vice-president for medical school affairs at the Association of American Medical Colleges, now a career development coach, and faculty career and diversity consultant based in Falls Church, Va. She participated in a refresher course at RSNA 2003 on encouraging the advancement of women. The refresher course was held in conjunction with the American Association for Women Radiologists (AAWR).

Diversity in medicine is very important, Bickel says, because diverse teams outperform homogenous ones, with improved creativity, agility and problem solving, better use of talent and enhanced marketing strategies. She also asserts that diversity of providers is critical to improving America’s health-care delivery system.

Bickel is urging the leaders of medical organizations to see that their success and sustainability as an organization is inextricably linked to the development of the talent of their women students, residents and faculty.

“We are currently wasting the intellectual capital of far too many women,” she warns. “At the same time, we hold women to higher standards in many ways.”

Bickel points to a study (*Org Dynamics*. 2001;30(2):149-161) showing that by the year 2005, 85 percent of

The demand for more flexibility is growing every year as the number of women increases and as the number of men committed to a balanced life also increases.

Janet Bickel, M.A.

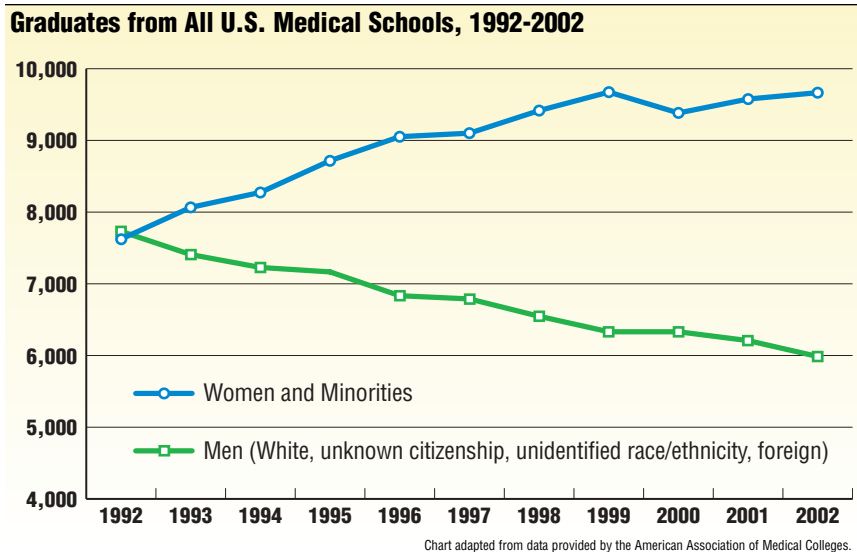


Janet Bickel, M.A.

new entrants to the workforce will be ethnic minorities and women. However, she says most systems in our society still favor the development of white men. “Our promotion and evaluation systems look gender- and race-neutral, but in fact, they are not because ‘fit’ and ‘political savvy’ remain huge success factors,” she says.

Thus, mentoring is extremely important. “Each department chair should make sure that every woman faculty member is receiving effective mentoring to maximize her career success,” Bickel says. “If each chair had been doing that over the last 20 years, we would have a lot more women in department leadership positions now. But women have been left to figure out everything by themselves, remaining isolated and too often excluded from crucial information networks.”

During the session, she presented a series of “good practices” that she says can strengthen the organization and benefit both women and men. These practices include rewarding interdisciplinary teaching achievements and





Attendees of an RSNA 2003 refresher course on encouraging the advancement of women in radiology were instructed on how to identify gender-related differences in their workplaces and were provided with strategies for improving professional development.

allowing more flexible work options. Bickel says that assisting employees to balance work and family issues will improve work effectiveness as well as employee retention.

She suggests that organizations need to assess the cost of turnover in comparison to the costs of such staff development improvements. “The demand for more flexibility is growing every year as the number of women increases and as the number of men committed to a balanced life also increases,” she points out. “If you take a longer view of the lifespan and the

career-span, you’re buying someone’s loyalty for the long-term when you commit to them and make it possible for them to not sacrifice their health or their personal life.”

She acknowledges that the impetus for change in the medical profession is lacking because women have achieved equity in access to education, and men thus believe the “problem is solved.” Women raising these issues tend to be marginalized or labeled as troublemakers.

“Since mental models filter our reality, women need to be more coura-

Tips for Women Radiologists

- Take the “long-view” of career development; women often shortchange themselves by adopting a narrow, monogamous job focus
- Build strategic career management skills
- Become visible. Remember the import of “who you know and who knows you.”
- Develop a style that is adequately aggressive
- Find a mentor and be a mentor
- Join a radiology organization

Source: Janet Bickel, M.A., career development coach, and faculty career and diversity consultant

geous at helping men see these filters,” Bickel urges. She suggests finding and mentoring a male colleague, who is, in her words, “a man of good conscience” or “a closet feminist.”

“That will take courage,” she says, “but since it is so hard for women to raise these issues with impunity, and since there are increasing numbers of men who appreciate why diversity is important, it would be well worth the effort.” □

Note: This article was adapted from a feature that appeared in the RSNA 2003 Daily Bulletin.

Graduates - All U.S. Medical Schools	CLASS OF										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Men – White, unknown citizenship, unidentified race/ethnicity, foreign	7,731	7,408	7,228	7,166	6,834	6,789	6,547	6,331	6,331	6,208	5,986
Men – Underrepresented Minorities (Black, American Indian/ HI, AK Native)	593	634	645	669	731	740	860	848	797	760	746
Men – Other Minorities (Asian or Pacific Islander, Puerto Rico, other Hispanic)	1,488	1,542	1,735	1,820	1,823	1,767	1,904	2,034	1,911	1,997	2,011
Women – White, unknown citizenship, unidentified race/ethnicity, foreign	4,017	4,226	4,082	4,257	4,400	4,395	4,230	4,323	4,237	4,312	4,326
Women – Underrepresented Minorities (Black, American Indian/ HI, AK Native)	640	697	701	718	867	925	997	995	999	922	978
Women – Other Minorities (Asian or Pacific Islander, Puerto Rico, other Hispanic)	886	967	1,112	1,253	1,231	1,274	1,425	1,474	1,439	1,586	1,605
Total Women/Minorities	7,624	8,066	8,275	8,717	9,052	9,101	9,416	9,674	9,383	9,577	9,666
Total	15,355	15,474	15,503	15,883	15,886	15,890	15,963	16,005	15,714	15,785	15,652

Chart adapted from data provided by the American Association of Medical Colleges.

The Amazing X-Ray in Advertising

A special education exhibit at RSNA 2003 took visitors on a fun and sometimes amazing journey back in time to the late 19th century and early 20th century, shortly after the discovery of the x-ray. The exhibit, called X-ray Mania, was put together by Edwin S. Gerson, M.D., a radiologist at Radiology Associates of Clayton in Riverdale, Ga.

For more than two decades, Dr. Gerson has been collecting x-ray products and advertisements. It started with a trip to the flea market where he stumbled across a sign advertising X-RAY Headache Tablets.

“Being a naturally curious radiologist and an inveterate ‘collector,’ I decided to see if I could find an actual bottle of the patent medicine,” he explains. “Shortly thereafter, at an antique show in central Massachusetts, I went from booth to booth asking dealers of apothecary or country store memorabilia about X-RAY Headache Tablets.”

Dr. Gerson found a dealer from New York who thought he had the product, but on further examination, found it was a box of X-RAY prophylactics. Dr. Gerson purchased the prophylactics and then enthusiastically searched for more items to add to his collection.

He learned that after the discovery of the x-ray, people found everything about the new rays dazzling and fascinating—and many attempted to capitalize on the marketing potential of the new technology.

As Dr. Gerson points out, it is not surprising that the name x-ray quickly became synonymous with cutting-edge technology. It also functioned as a metaphor for “powerful unseen truth



Most people couldn't help but smile as they viewed the wide variety of x-ray memorabilia on display in the Education Exhibits area of RSNA 2003.



The public was simply astonished by x-rays, and advertisers played off this spellbound attention by adding the name to almost any type of product.

Edwin S. Gerson, M.D.

and strength.”

Many believed x-rays would become a part of everyday culture—from henhouses to the temperance

movement, from the detection of flaws in metal to the analysis of broken hearts. There was an immediate popular response that spawned the sort of cultural manifestation common to fads.

“The public was simply astonished by x-rays, and advertisers played off this spellbound attention by adding the name to almost any type of product,” he says. X-rays appeared in advertising, cartoons and songs. Dr. Gerson even has sheet music for “X-ray Waltzes,” composed by Harry L. Tyler

Ask your dealer for X-Ray

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copyrighted in 1896—just months after the discovery of x-rays.

Dr. Gerson's exhibit displayed and documented more than 20 examples of this phenomenon in both print and product.

X-ray Liniment was described as a "new, safe and special remedy for all forms of rheumatism." X-ray Stove Polish promised that the product "shines easiest, shines brightest, cannot explode and lasts longest." There was also x-ray ointment, x-ray cream furniture polish, x-ray razor blades,

x-ray shampoo, x-ray golf balls and x-ray whiskey.

"At a time before government regulation of consumer goods, the range of products sold under the name x-ray was truly astonishing," says Dr. Gerson. "The x-ray grabbed the imagination of scientists and the public with great intensity. Scientists focused on its powers to make matter transparent and to cure illness. The public concentrated on its magical ability to see through objects and its miraculous capacity to change the world as they

knew it."

Photographs of all of the items in Dr. Gerson's collection, along with an insightful commentary, are included in the March-April 2004 edition of *RadioGraphics*. □

Note: This article is based on a feature that appeared in the RSNA 2003 Daily Bulletin.



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RSNA member price: \$72.00

BOOK

PET/CT: Imaging Function and Structure

Gerald Antoch, MD; Jelle O. Barentsz, MD; Thomas Beyer, MD, PhD; Andreas Bockisch, MD, PhD; Jeffrey D. Bradley, MD; Jonathan R.J. Carney, PhD; Frans H.M. Corstens, MD; Johannes Czernin, MD; Jörg Debatin, MD, MBA; Farrokh Dehdashti, MD; Thomas Egelhof, MD; Lutz S. Freudenberg, MD; Gerhard W. Goerres, MD; Nathan C. Hall, MD, PhD; Johannes H.A.M. Kaanders, MD; Steven M. Larson, MD; Stefan Müller, MD; Wim J.G. Oyen, MD; Carlos A. Perez, MD; Osman Ratib, MD, PhD; Heinrich Schelbert, MD, PhD; Heiko Schöder, MD; Gustav K. von Schultess, MD, PhD; Barry A. Siegel, MD; Piotr Slomka, PhD; Hans C. Steinert, MD; David W. Townsend, PhD; Wouter V. Vogel, MD; Richard L. Wahl, MD; Jeffrey T. Yap, PhD; Henry W.D. Yeung, MD

Published in January 2004, this state-of-the-science overview of the new field of positron emission tomography fused with computed tomography (PET/CT) features current informa-

tion from the experts. Earn up to 10 Category 1 CME credit hours by reading and taking the test for each article at www.snm.org/education/ce_online.html. Softcover, 103 pp., 2004

RSNA member price: \$45.00

BOOK

A Clinician's Guide to Nuclear Medicine

Andrew Taylor, M.D., David M. Schuster, M.D. and Naomi Alazraki, M.D.

This book builds on and expands the basic concepts found in *Fundamentals of Nuclear Medicine*. This introduction to the diagnostic and therapeutic uses of nuclear medicine procedures is a must have for clinicians, residents, interns, medical students and referring physicians. It reviews nuclear medicine procedures, available alternatives, advantages and limitations of each, and provides patient information to aid in preparing patients. Softcover, 410 pp., 2000

RSNA member price: \$40.50

BOOK

Self-Study Program III: Nuclear Medicine Cardiology

Series Editor: Elias H. Botvinick

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Series Editor: Thomas P. Haynie, M.D.

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Topic 5: Bone Cancer Therapy and Topic 6: Radioimmunotherapy
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BOOK

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Sanjiv S. Gambhir, M.D., Ph.D., Johannes Czernin, M.D., Judy Schwimmer, M.B.A., M.A., Daniel H.S. Silverman, M.D., Ph.D., R. Edward Coleman, M.D. and Michael E. Phelps, Ph.D.

This supplement to *The Journal of Nuclear Medicine* provides a comprehensive literature review of the use of FDG PET in oncology, cardiology and neurology. This supplement has proven useful for healthcare providers, administrators and health economists who wish to better understand the role of FDG PET in the medical management of patients. Softcover, 93 pp., 2001

RSNA member price: \$13.50

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Jeffrey Siegel, Ph.D.

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BOOK

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S. Atlas, M.D.

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M. Berman

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T. Berquist

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Atlas of Ultrasound in Obstetrics and Gynecology.

P. Doubilet

This four-color atlas, with accompanying CD-ROM, depicts key elements of sonography, including its dynamic real-time aspect. Intended to complement existing textbooks in the field, the atlas serves as a tutorial for the use of ultrasound in both normal and abnormal OB/GYN imaging. The CD-ROM offers realtime video, interventional procedures, a complete review of OB/GYN, and more. The book can be used as a clinical reference, while users can go to the CD-ROM to see how procedures are performed and how scans appear in actual, day-to-day practice. 352 pp.

RSNA Member Price \$144.00

BOOK

Textbook of Uroradiology

N. Dunnick

The thoroughly revised, updated third edition of this acclaimed text is an ideal reference for radiologists throughout their careers—from residents reviewing for boards to seasoned practitioners evaluating urogenital scans. In a user-friendly format enhanced by more than 1,000 illustrations, the book covers every aspect of uroradiology, including anatomy, embryology, congenital anomalies, diagnostic imaging techniques, renal pathology, trauma, and much more. This edition's format is better suited for board review, with summary tables and boxes to highlight essential information. The up-to-date coverage incorporates all current imaging modalities—including CT, MRI, ultrasound, and nuclear medicine—and includes new information on hysterosalpingography and imaging of the female pelvis. 532 pp.

RSNA Member Price \$125.10

BOOK

Clinical Imaging: An Atlas of Differential Diagnosis

R. Eisenberg

Dr. Eisenberg's best seller is now in its Fourth Edition—with sharp, new CT and MRI images and expanded coverage of ultrasound. Featuring 3,700 illustrations, this atlas guides readers through the interpretation of radiographic appearances. The emphasis on pattern recognition reflects radiologists' day-to-day needs and is invaluable for board preparation. Organized by anatomic area, the book has a convenient format that makes information very easy to follow. Tables on the left-hand pages outline conditions and characteristic imaging findings and offer comments to guide diagnosis. Images on the right-hand pages illustrate the major findings noted in the tables. 1250 pp.

RSNA Member Price \$161.10

BOOK

Freyschmidt's "Koehler/Zimmer" Borderlands of Normal and Early Pathologic Findings in Skeletal Radiography

Freyschmidt

Thieme proudly presents the updated and expanded fifth edition of the landmark text generations of physicians have used to differentiate borderline findings. Redesigned for optimal use, the book is organized according to diagnostic questions raised by clinical findings, radiographic findings, or both. You'll find all possible variants in five pathologic categories: anomaly; trauma; necrosis; inflammation; and tumor. The book provides imaging examples of the entire body, from the skull base, shoulder, and clavicle, to lower spine, knees, and the feet. More than 4,200 high-quality illustrations give clear examples of potential findings. 1120 pp.

RSNA Member Price \$224.10

BOOK

Radiobiology for the Radiologist

E. Hall

Written by a practicing, active radiobiologist, the book brings together basic laboratory research and practical, clinical applications. The single-authored, easy-to-read text and informative illustrations ensure comprehension, and summaries at the end of each chapter facilitate quick review. This edition has been reorganized for convenient reference. Brand-new chapters address cancer biology, the clinical response of normal tissues, and gene therapy. Molecular biology is thoroughly integrated into this edition. 588 pp.

RSNA Member Price \$85.50

BOOK

Ultrasound Atlas of Disease Processes

C. Krebs

This is a comprehensive atlas of disease processes as they appear on ultrasound. The book covers normal anatomy and variants, as well as disorders. 432 pp.

RSNA Member Price \$170.10

BOOK

Diagnostic Imaging of Fetal Anomalies

D. Nyberg

This book guides readers through the use of ultrasound to detect and identify birth defects—including heart malformations, kidney obstructions, intestinal blockages, lung abnormalities, and more. The book offers up-to-date advice on what to look for, given a certain risk or clinical history, and how to perform and interpret the ultrasound examination. More than 1,600 images—including full-color throughout—provide a true-to-life view of ultrasound findings. Each anomaly is discussed in an easy-to-follow format that covers characteristic features; pathogenesis and etiology; differential diagnosis; prognosis; and management. This edition includes brief tables of teratogens and information on genetic markers. 1102 pp.

RSNA Member Price \$157.50

BOOK

Digital Mammography

E. Pisano

This book's coverage includes descriptions of current and emerging detector technologies and detailed reviews of clinical trials comparing digital mammography to screen-film mammography for both screening and diagnosis. Other chapters examine quality control procedures, discuss archiving and PACS issues, and preview future developments in computer aided detection, image processing, tomosynthesis, digital subtraction mammography, and image display. The book features a comprehensive atlas of digital mammography cases, with appropriate work-up images and pathologic diagnoses for every type of lesion. 231 pp.

RSNA Member Price \$80.10

BOOK

Aunt Minnie's Atlas and Imaging Specific-Diagnosis

T. Pope

Atlas is an excellent study tool for the oral radiology board examination. It features over 600 images and over 250 cases representing "Aunt Minnie's"—diseases with unique radiographic features that allow a confident, immediate diagnosis. Each case is presented in an easy-to-follow format and includes crucial take-away points called "Aunt Minnie's Pearls." The cases represent all modalities and cover the 10 subspecialties tested on the oral boards—pediatrics, musculoskeletal system, interventional radiology, ultrasound, nuclear medicine, neuroradiology, cardiopulmonary imaging, mammography, gastrointestinal radiology, and genitourinary radiology. This edition includes new cases in each area. 464 pp.

RSNA Member Price \$89.10

BOOK

Reeder and Felson's Gamuts in Radiology: Comprehensive Lists of Roentgen Differential Diagnosis

M. Reeder

Since 1975, radiologists the world

over have used *Reeder and Felson's Gamuts in Radiology* to ensure that every diagnostic possibility is considered. For the fourth edition, Dr. Maurice M. Reeder has assembled an all-new board of section editors who have completely revised and updated their respective sections. These editors are among the world's authorities in their respective specialties, and they have given this classic the most complete revamping it has ever had. New features in the fourth edition include: over 250 new gamuts in the areas of ultrasound, magnetic resonance body imaging, and head and neck imaging; More than 80 percent of the previously existing gamuts have been updated, and an entire new section on obstetrical ultrasound has been added. 998 pp.

RSNA Member Price \$116.10

BOOK

Physics and Radiobiology of Nuclear Medicine

G. Saha

Supplemented with tables and illustrations throughout the book, each chapter provides the reader with well-delineated descriptions of the different aspects of physics and radiation biology related to nuclear medicine. The last edition was successful and highly acclaimed, as Dr. Saha made many complex concepts readily understandable for residents, students and practitioners in nuclear medicine. The book serves as an excellent text for nuclear medicine residents and technology students to prepare for their board and registry examinations. 253 pp.

RSNA Member Price \$62.10

BOOK

Abdominal-Pelvic MRI

R. Semelka

This book provides authoritative and comprehensive coverage of disease entities of the abdomen and pelvis organized by organ system and anatomical structure. Each chapter presents superior quality magnetic resonance images of normal appearances and a complete array of disease entities. 1210 pp.

RSNA Member Price \$220.50

BOOK

Handbook of Health Physics and Radiological Health

B. Shleien

This book was conceived in order to fill the need of health physics practitioners, technicians, and students for an easy to use, practical handbook containing health physics and radiological health data.

RSNA Member Price \$103.50

BOOK

Magnetic Resonance Imaging in Orthopaedics and Sports Medicine

D. Stoller

In this book, the author has expanded the collaboration between orthopaedic surgeons and radiologists as exemplified in numerous examples of arthroscopic, gross, and histologic correlations, in addition to enhanced clinical discussions of patient management. 1379 pp.

RSNA Member Price 292.50

CD-ROM

Wolf Files. An Interactive Radiology Atlas of Fundamental Cases on CD-ROM for Windows

M. Wolf

Presents common and emergent chest, abdominal, and orthopedic cases. (The Wolf Files sold 53 copies in its first month alone at the Kansas University Medical School Bookstore).

RSNA Member Price \$31.46

BOOK

MRI of the Shoulder

M. Zlatkin

Now in its second edition, this resident-friendly reference explains the basics of MRI, then walks readers easily through the radiologic evaluation of shoulder disorders, particularly rotator cuff disease and shoulder instability. Written in an inviting, easy-to-follow style and illustrated with more than 600 scans, this long-awaited new edition will be a favorite practical reference for residents, practicing radiologists, and orthopedic surgeons. The book features contributions from expert radiologists and orthopedic surgeons. Chapters review MRI techniques and shoulder anatomy, describe and illustrate MRI findings for a wide variety of conditions, and explain how abnormalities seen on MR images relate to pathophysiology and clinical signs. 306 pp.

RSNA Member Price \$134.10

OXFORD

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Oxford University Press

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Cary, NC 27513
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www.oup-usa.org

BOOK

Bone Dysplasias An Atlas of Genetic Disorders of Skeletal Development Second Edition

Jurgen W. Spranger, Paula W. Brill and Andrew K. Poznanski

Many advances have been made in understanding skeletal dysplasias since the first edition of this classic text appeared in 1974. The second edition has been completely renovated, with the help of two new co-authors, to incorporate these advances. The book's format is similar to the original but the number of conditions covered has almost doubled and molecular information has been added wherever available. The number of figures has been increased to the limit of economic wisdom. As in the first edition, the illustrations have been selected and sequenced to illustrate both the degree of variability of a given disorder and its changes with age.

This book is designed for physicians involved in the evaluation and treatment of patients with skeletal dysplasias, including radiologists. Its main goal is to assist in the diagnosis of specific conditions and the care of

Continued on next page

affected individuals. Though mutations of specific genes can produce dysplasias with very different phenotypes and prognoses, the primarily clinical aim of this book dictated a phenotypic classification in general, with compromises on etiologic grounds where necessary. Hardback, 632 pp., 2002

RSNA Member Price \$131.25



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JOURNAL International Medical Devices (IMD)

International Medical Devices (IMD) furnishes China's healthcare field with vital information on the latest developments in this vibrant industry. IMD is distributed to general and military hospitals across China. It is supported by the Department of Pharmaceutical Administration of State Economic and Trade Commission and the Bureau of Drugs and Medical Instruments of Health Department of General Logistics Department of the PLA, etc. (12 issues)

RSNA Member Price: \$58.80

JOURNAL Conventional Clinical Equipment (CCE)

Conventional Clinical Equipment (CCE), launched in 2002, provides vital information on conventional medical equipment to serve the needs of small- and medium-size hospitals in China. With innovated friendly design, the magazine reports the latest development directions and technological advancements of various medical devices. (6 issues)

RSNA Member Price: \$29.40

JOURNAL China Now: Medical Products (CN:MP)

China Now: Medical Products keeps foreign marketers abreast of China's medical device industry developments. It reports on the country's latest policy and regulations, market trends, technologies, products and other relevant information. (Spring & Autumn issues)

RSNA Member Price: \$14.00



Medical Physics Publishing

(Distributor of AAPM Books and Reports)

■ 4513 Vernon Blvd.
Madison, WI 53705-4964
(800) 442-5778 or (608) 262-4021

BOOK The Expanding Role of Medical Physics in Diagnostic Imaging
G. Donald Frey and Perry Sprawls, eds.

Provides a broad-based review of the status of radiographic and fluoroscopic imaging and emphasizes the expanding functions that medical physicists are providing in the transition from the traditional imaging environment to the fully digital imaging environment. 583 pp.

RSNA Member Price \$60.00

BOOK Practical Digital Imaging and PACS

Anthony Seibert, Larry Filipow and Katherine Andriole, eds.

Emphasizes the new advances in imaging technology, covering all of the inherently digital imaging modalities such as computed radiography, CT, MRI, ultrasound and nuclear medicine. 577 pp.

RSNA Member Price \$50.00

BOOK General Practice of Radiation Oncology Physics in the 21st Century

Almon Shiu and David Mellenberg, eds.

Includes specifications, performance expectations, quality-assurance testing, works-in-progress/ futures and general philosophies and is designed to enable readers to begin the implementation of these technologies at their facilities. 368 pp.

RSNA Member Price \$60.00

BOOK Accreditation Programs and the Medical Physicist

Robert Dixon, Priscilla Butler and Wlad Sobol, eds.

Provides a broad overview of the accreditation programs currently available, as well as some programs in development. Illustrates the physical principles related to an image and what is required to provide acceptable images. 364 pp.

RSNA Member Price \$65.00

BOOK Intravascular Brachytherapy / Fluoroscopically Guided Interventions

Stephen Butler, Rosanna Chan, Thomas Shope, eds.

Explores the techniques involved in the use of fluoroscopic guidance in

minimally invasive therapeutic procedures, using intravascular brachytherapy as an example of such a procedure. 930 pp.

RSNA Member Price \$95.00

BOOK Biological & Physical Basis of IMRT & Tomotherapy
Bhudatt Palival, et. al., eds.

Presents the current status of the biological, physical/technical and clinical aspects of volume effects on time, dose and fractionation schemes for radiation treatment of cancer patients and the several parametric models (Both explanatory and predictive) of the effects thereof, with regard to optimization of treatment planning. 390 pp.

RSNA Member Price \$80.00

BOOK Recent Developments in Accurate Radiation Dosimetry
Jan Seuntjens and Paul Mobit, eds.

The dramatic advances in absorbed-dose-to-water standards and in Monte Carlo ion chamber response calculations that have been made in the last 10 years and their application in accurate radiation dosimetry are summarized. 365 pp.

RSNA Member Price \$70.00

BOOK Clinical Ultrasound Physics: Workbook for Physicists, Residents, and Students
James Kofler Jr., et. al.

An instructor's manual to assist physicists in teaching ultrasound physics concepts to non-physics personnel (residents, sonographers, graduate students, etc.) 85 pp.

RSNA Member Price \$40.00

BOOK Nuclear Medicine Instrumentation Laboratory Exercises for Radiology Residency Training
R.J. Van Tuinen, et. al.

These exercises provide residents with insight into each instrument, its capabilities and limitations and the value of quality control testing. 88 pp.

RSNA Member Price \$30.00

BOOK Workbook on Dosimetry and Treatment Planning for Radiation Oncology Residents
R.K. Wu, et. al.

Provides a guide for second and third-year residents in radiation oncology for their one-month physics and dosimetry training. 32 pp.

RSNA Member Price \$6.00



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■ 65 Enterprise
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www.rbma.org

NEWSLETTER The RBMA Bulletin

Your premier resource when it comes to radiology education. The RBMA Bulletin includes featured stories written by industry professionals as well as pertinent articles on practice management, compliance issues and legislation, HIPAA and ACR updates. You will also find up-to-date information on RBMA educational seminars, conferences, networking opportunities and products. Published six times per year.

RSNA Member Price: \$90.00

BOOK The HIPAA Workbook for Privacy and Security

The HIPAA Workbook for Privacy and Security: A Radiology Guide to Implementation of the Health Insurance Portability and Accountability Act is a radiology-specific guide to implementing the HIPAA Privacy and Security Standards that includes sample policies and procedures, consent and authorization forms, sample business associate and chain of trust agreements, planning and implementation guidelines, and much more.

RSNA Member Price: \$995.00

TOOLKIT RBMA Compliance Implementation Toolkit™

The RBMA Compliance Implementation Toolkit™ was designed for and written by RBMA members Claudia Murray and Hilary Huebsch Cohen, J.D. Designed as a turnkey Toolkit solution for radiology and radiation oncology practices to customize a compliance plan for their practice.

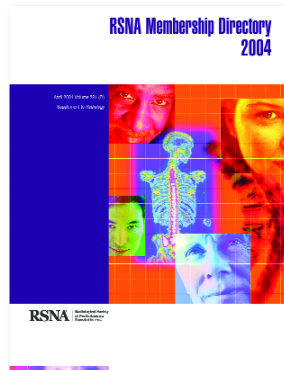
RSNA Member Price: \$895.00

Working For You

2004 RSNA Membership Directory

RSNA members will receive the 2004 RSNA *Membership Directory* with their April issue of *Radiology*. The directory includes contact information for the Society's 35,000 members, important current and historical information about RSNA, 2003 annual reports from the Board of Directors and RSNA committee chairs, and membership applications.

For more information, contact the Membership and Subscriptions Department toll free at (877) RSNA-MEM or membership@rsna.org.



Academic Libraries Have Easier Access to RSNA Journals

A new feature is being offered by the company that assists in the online production of *Radiology* and *RadioGraphics* that makes it easier for academic libraries to subscribe to RSNA's two peer-reviewed journals.

HighWire Press allows the librarians to create their own

pricing/subscription bundles so that they can choose the journals their institutions need without paying for journals they don't need.

RSNA, along with other scholarly society publishers, helped to initiate this new pricing/subscription model.

Continued on page 24

SERVICE TO MEMBERS:

The RSNA Production Department is primarily concerned with pre-press operations for *Radiology* and *RadioGraphics*. It is my responsibility to maintain quality and deadline adherence throughout the process by developing new methods and procedures. This includes development of production schedules and tracking the progress of the journals at all stages; pre-edit cleanup and insertion of typesetting codes into manuscripts (about 800 per year); quality assessment and arrangement of all journal images (about 10,000 per year); sending of manuscript proofs to authors electronically to help improve the time to publication; and quality control of page layouts. The



NAME:
Carol Douglas
POSITION:
Assistant Director
Publications:
Production
WITH RSNA SINCE:
November 1984

same intensity of effort applies to the production of the RSNA syllabi and other meeting-related projects.

While the main focus of our endeavors is with the printed journals, we also assist in the implementation of the online journals, cases of the day, the digital presentation and exhibit for the Sunday Image Interpretation Session, and syllabi on CD-ROM.

It is through the united efforts of our production team that the goal for quality publications is achieved for our members.

WORK PHILOSOPHY:

To some, my work philosophy might seem too simplistic. However, my mindset has always been that there is no limit to what we can accomplish in our production department. The



RSNA Production Department (clockwise from top left) **Beverly Zuk, Ann Blair, Julie Pietryla, Thomas Kruk, Kathy Rosewell and Lucinda Foulke**

answer to any service request is unhesitatingly, "Will do!" or "Yes, it can be done!"

While I have seen production methods evolve from the use of the gluepot to the computer, I still ask, "Is there yet another more efficient or cost-effective way to accomplish this?" or "What if we...?"

In the end, it is always the appreciation and encouragement from the RSNA leaders and members that motivate me to do my best.

If you have a colleague who would like to become an RSNA member, you can download an application at www2.rsna.org/timssnet/mbrapp/main.cfm, or contact the RSNA Membership and Subscription Department at (877) RSNA-MEM [776-2636] (U.S. and Canada), (630) 571-7873 or membership@rsna.org.

Program and Grant Announcements

NEW!

NIH Launches Director's Pioneer Award Program

In a move to stimulate high-risk, high-impact medical research, the National Institutes of Health (NIH) is inviting nominations for the NIH Director's Pioneer Award Program—part of a series of far-reaching initiatives known collectively as the NIH Roadmap for Medical Research.

NIH will provide up to \$500,000 per year for five years to a highly select group of individuals who have the potential to make extraordinary contributions to medical research.

"The face of biomedical research is changing," says NIH

Director Elias A. Zerhouni, M.D., "To keep pace, we must cross the traditional disciplinary boundaries of science and medicine to bring forward new conceptual frameworks and methodologies that will speed scientific discovery and improve health."

Nominations will be accepted from March 1, 2004 through midnight April 1, 2004, ET. For more information or to submit a nomination, visit the NIH Director's Pioneer Award Web site at www.nihroadmap.nih.gov/highrisk/initiatives/pioneer.



New Grants Information Website

The U.S. Department of Health and Human Services has launched a consolidated federal grant Web site (grants.gov) that is searchable and includes an e-mail notification service. Currently it lists more than 800 grant programs, including those sponsored by NIH, National Science Foundation and NASA.



Leadership Strategies for Radiology Practices

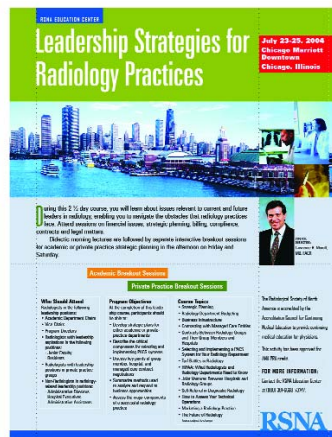
Online registration is now available at www.rsna.org/education/shortcourses for this dynamic, interactive RSNA course directed by Lawrence R. Muroff, M.D.

The course will be held July 23-25, 2004, at the Chicago Marriott Downtown. It is designed for current and future leaders in radiology and focuses on relevant topics including financial issues, strategic planning, billing, compliance and legal matters. Didactic morning lectures are followed by split interactive breakout sessions for academic or private practice strategic planning in the afternoon.

Registration Fees:

- RSNA member: \$695
- RSNA member-in-training: \$295
- Non-member: \$795

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



Roentgen Resident/Fellow Research Award

The nomination deadline is April 15 for the RSNA Research & Education Foundation Roentgen Resident/Fellow Research Award. This award recognizes and encourages outstanding residents and fellows in radiologic research.

For more information, or for an application, go to www.rsna.org/research/foundation/pdf/RRFR_nom.pdf



Product News

FDA CLEARANCE

Dry Laser Imagers for Full-Field Digital Mammography

DryPix™ dry laser imagers, from FUJIFILM Medical Systems USA, have received 510(k) FDA clearance for use with full-field digital mammography (FFDM). This makes the DryPix 7000, DryPix 5000 and DryPix FM-DP L the first centralized dry laser imagers on the market to have both the regulatory clearance and inherent features necessary for printing FFDM as well as other department-wide imaging modalities such as computed radiography, MRI, CT and ultrasound.



“We are committed to providing the most cost-effective print networking solutions that offer the highest image quality and department efficiency,” said Robert Neary, Fuji’s national marketing manager for imaging systems. “With this clearance, FFDM users can now enjoy efficient, high quality printing from Fuji’s DryPix dry laser imagers without the unnecessary expense of purchasing a dedicated printer.”

NEW PRODUCT

Ultrasound System Expands Capabilities, Improves Ergonomics

Toshiba America Medical Systems has unveiled new enhancements that expand the clinical capabilities of Aplio™, the company’s all-digital, high-performance ultrasound system. The advancements, which include the IASSIST™ wireless remote, new transducers and next-generation contrast imaging technology, are designed to deliver superior image quality for greater diagnostic accuracy.

“Toshiba designed the

Aplio with a groundbreaking system architecture that allows users to take advantage of next-generation clinical capabilities, while also enabling new technologies that address everyday usage and ergonomics issues ... to improve the user experience and meet the highest demands of diagnostic performance,” said Adel Girgis, director of the Ultrasound Business Unit for Toshiba America Medical Systems.

*Pending FDA approval.



NEW PRODUCT

World’s First 64-slice CT System

Siemens has introduced Somatom Sensation 64—the world’s first 64-slice CT system.

The Somatom Sensation 64 is based on the so-called Speed4D technology utilizing the powerful Straton x-ray tube as a core element.

It takes only 0.37 seconds per rotation.

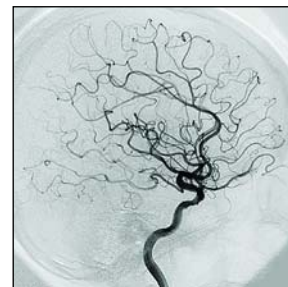
After a comprehensive clinical testing phase, the system will replace the 16-slice CT as Siemens top model beginning in the fall of 2004.

NEW PRODUCT

New Generation of Flat Panel X-Ray Detector Technology

Shimadzu has released DIGITEX-Safire*, a flat panel cardiac and vascular system with the world’s first direct conversion, dynamic imaging flat detector. Safire stands for Shimadzu Advanced Flat Imaging Receptor. When fully digitalized, Safire can be connected to any department’s network contributing to improved workflow and study availability.

*Pending FDA approval.



Safire’s superior spatial resolution helps display small peripheral cerebral vessels.

Radiology in Public Focus

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

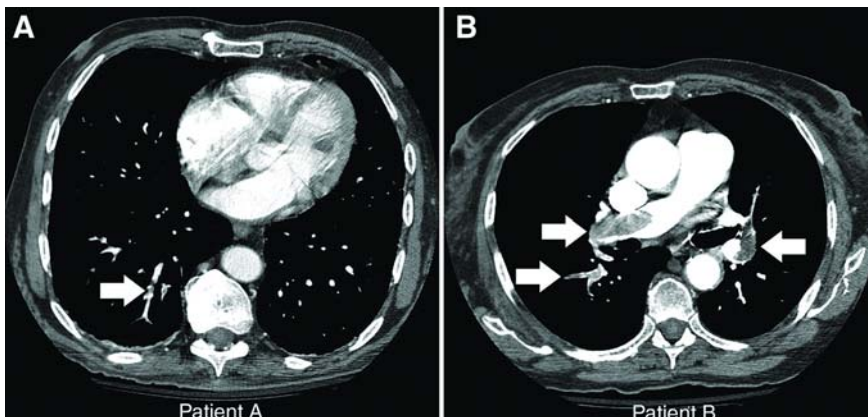
"CT Pulmonary Angiography: Quantification of Pulmonary Embolus as a Predictor of Patient Outcome—Initial Experience"

Quantification of a pulmonary embolus may be an important predictor of patient outcome.

Andrew S. Wu and colleagues, from the Department of Diagnostic Imaging at Rhode Island Hospital and Brown Medical School in Providence, retrospectively reviewed multi-detector CT pulmonary angiography studies of 59 hospitalized patients.

A pulmonary arterial obstruction index (CTPE Index) was derived based on the embolus size and location. Using logistic regression, the pulmonary embolus indices were compared with patients' hospital outcome to determine if there was a correlation between pulmonary embolus volume and survival.

The researchers found that in most



cases the CTPE Index correctly predicted patient outcome. They write, "The development of such a clot burden index may have important prognostic and therapeutic implications, and may provide a reproducible standard for measuring response to thrombolytic therapy."

Transverse contrast material-enhanced CT images in two patients. Arrows indicate clot locations. (A) Patient had a small subsegmental clot, received a PE index of 2.5%, and survived. (B) Patient had multiple large emboli, received a PE index of 75%, and died of causes related to PE while hospitalized.

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RSNA press releases are available at www2.rsna.org/pr/pr1.cfm.

Continued from page 21

Media Coverage of RSNA 2003

More than one billion people worldwide had access to print, broadcast and Internet news reports about studies presented at RSNA 2003.

Nearly 200 reporters attended the meeting resulting in more than 2,700 tracked media placements. International news media reported on news conferences and scientific presentations highlighting topics ranging from virtual colonoscopy to female smokers' risk of developing lung cancer.

Coverage included articles in major newspapers as *The New York Times*, *The Wall Street Journal*, *USA Today*, *Washington Post*, *Los Angeles Times*, *The Times* (London), *The Globe & Mail* (Canada), and the *Chicago Tribune*; stories on major U.S. television programs including ABC World News Tonight, CBS Early Show, CBS Evening News, CNN Headline News, NBC Nightly News, and the Today Show; and articles in magazines such as *Time* and *U.S. News & World Report*.



Claudia I. Henschke, M.D., Ph.D., from Cornell Medical Center, participated in a press conference at RSNA 2003 to present the results from the Early Lung Cancer Action Project in New York. She released information on the effectiveness of CT as a screening tool for lung cancer; and on the finding that women have double the risk for lung cancer from tobacco use than do men.



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News about RSNA 2004

Abstracts for RSNA 2004

The deadline is April 15, 2004, to submit scientific abstracts for RSNA's 90th Scientific Assembly and Annual Meeting.

All abstracts must be submitted online through *RSNA Link* (www.rsna.org). This year, a new online abstract submission system is making the process easier for those submitting abstracts and for those reviewing the abstracts.

The direct link is www.rsna.org/rsna/abstracts.html.

Abstracts are required for scientific papers, scientific posters, education exhibits, radiology informatics and *infoRAD* exhibits.

Scientific presentations can be presented in either an oral or poster format. Oral presentations will be delivered at an assigned time and date and will be limited to seven minutes in length followed by three minutes for discussion. Oral presentations are

awarded AMA PRA category 1 credit. Posters will be assigned to a one-hour scientific session with the author present during the session to discuss the poster with the audience. Posters will be on display for review by the meeting attendees throughout the week on a 2×1.25 meter surface. Poster presentations

will be awarded AMA PRA category 1 credit during the assigned one-hour scientific session presentation.

Scientific Papers and Posters should address completed hypothesis-driven research with a comprehensive report; a work-in-progress report of research under way concerning emerging ideas and techniques and containing initial yet defined results; or a brief, pertinent report of a particu-

lar new aspect or understanding of clinical radiology.

Research Trainee Prize(s) and Medical Student Research Award(s)

include \$1,000 and a certificate to each winner. Only medical students/residents/fellows

and physics trainees from North America are eligible. Scientific abstracts submitted by medical students, residents, fellows and trainees will undergo the usual peer review process. If accepted for presentation the authors will receive a letter of invitation to submit a more detailed abstract for consideration for the Research Trainee Prize or Medical Student Research Award.

Education Exhibits should be designed to teach or review radiologic signs, pathologic correlations, pro-

cedures, techniques, treatments, and interventions or other aspects related to the practice of imaging.

Electronic Education Exhibits in the *infoRAD* demonstration area showcase computer applications in radiologic education and information management. These are nonproprietary demonstrations of the management and communication of images and data for patient care and professional education.

Radiology Informatics sessions address technologies that facilitate distribution of and access to medical data. They are composed of non-commercial presentations averaging 20-30 minutes each, grouped by topic and selected by committees of domain experts.

For more information, contact (877) RSNA-ABS [776-2227] or programs@rsna.org.



November 28 – December 3, 2004
McCormick Place, Chicago

RSNA 2003 Attendance

The official total registration for RSNA 2003 was 59,268, comparable to RSNA 2002. Professional registration was 25,178, up four percent from the previous year. In addition to healthcare professionals and exhibitor personnel, total attendance includes members of the medical media, spouses/guests, RSNA staff and contractors.

	RSNA 2000	RSNA 2001	RSNA 2002	RSNA 2003
Total Attendance	59,794	53,033	59,538	59,268
Healthcare Professionals (Total)	24,412	20,788	24,241	25,178
Exhibitor Personnel	30,089	27,165	29,258	27,560

Important Dates for RSNA 2004

April 15	Deadline for abstract submission
April 26	RSNA and AAPM member registration and housing opens
May 24	General registration and housing opens
June 21	Refresher course enrollment opens
Oct. 29	Advance registration deadline
Nov. 28– Dec. 3	RSNA 90th Scientific Assembly and Annual Meeting

■ For more information about RSNA 2004, call (800) 381-6660 x7862 or e-mail reginfo@rsna.org.

RSNA 2004 Exhibitor News

Exhibitor Prospectus

The RSNA 2004 Exhibitor Prospectus will be mailed soon. To achieve the maximum available space and assignment points, an exhibitor's completed application must be received at RSNA Headquarters by April 12, 2004. The first-round space assignment deadline is May 10.



November 28 – December 3, 2004
McCormick Place, Chicago

Important Exhibitor Dates for RSNA 2004

March 31	Exhibitor Prospectus mails
May 10	First-round space assignment deadline
June 22	Exhibitor Planning/Booth Assignment Meeting
July 6	Technical Exhibitor Service Kit available online
Nov. 28– Dec. 3	RSNA 90th Scientific Assembly and Annual Meeting

Advertising at RSNA 2004

Many opportunities exist for exhibitors to promote their exhibit at RSNA 2004—the world's largest annual medical meeting. For more information, see www.rsna.org/advertising/index.html or contact:

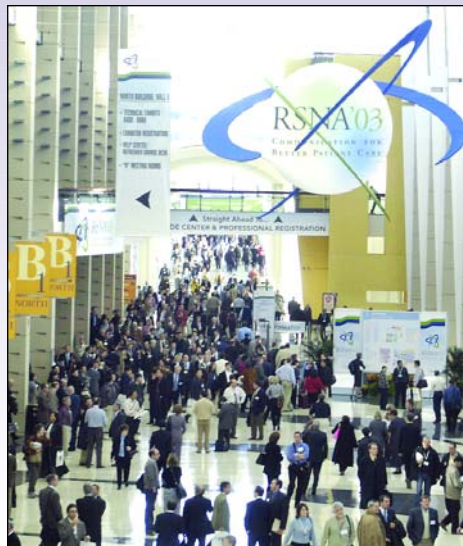
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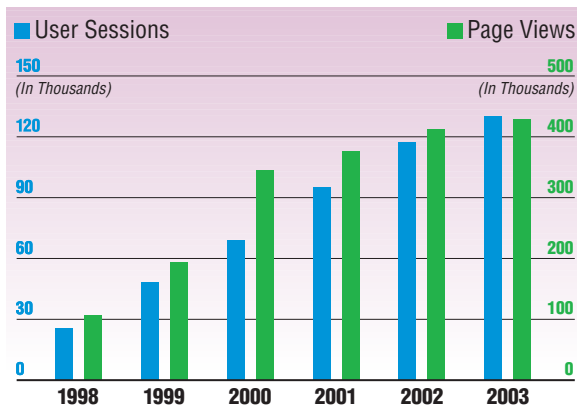
RSNA 2004 Abstract Submission

www.rsna.org/rsna/abstracts.html

www.rsna.org

RSNA Link's Popularity Grows

RSNA Link (www.rsna.org) became a much more valued resource in 2003. The following graph shows a steady increase in the average number of page views and average monthly user sessions from 1998-2003. The busiest month for RSNA Link in 2003 was November. February was the slowest month.



Top Stories in RSNA News as Viewed on RSNA Link

RSNA News is available online about two weeks prior to the mailing of the print version. A review of the stories accessed online shows the following 10 as being the most popular in 2003:

ARTICLE TITLE	2003 ISSUE	PAGE VIEWS*
Radiologists Help to Confirm SARS	May	6,934
Salaries Rise for Radiologists in 2002	October	4,383
Radiologists Help Uncover Child Abuse	July	4,299
CT Urography Shows Promise in Detection of Urinary Tract Disease	November	2,715
Diagnostic Radiologists See Increase in Income	January	2,208
Non-Radiologist Physicians Boosting Imaging Costs	October	2,135
PDA's Offer Mobility to Busy Radiologists	August	1,813
RSNA 2003 Lecture Preview	November	1,794
NCRP Coordinates Strategy on CT Dose Recommendations	January	1,786
MIRC Debuts Its Electronic Teaching File System	September	1,699

*Page view totals were recorded only when the article was among the top 100 accessed on RSNA Link during a particular month.

Interactive Calendar

The CME and Other Meetings calendar on RSNA Link has been replaced by an interactive calendar with a custom search facility (www3.rsna.org/calendar/index.cfm?mg_id=26).

The new calendar, first used on RSNA Link Onsite during RSNA 2003, has a Web form with which you can submit announcements about meetings in the radiologic sciences. When you click Submit an Announcement, the calendar program sends an e-mail alert to the Webmaster, who then reviews the submission,

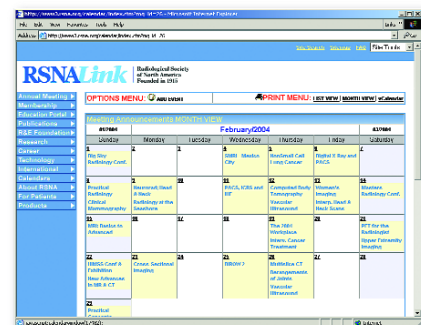
makes changes where necessary and posts the announcement in the calendar.

At the top of the Calendar View page, a print menu has two options:

- List View
- Month View

List View displays all events in the calendar month, with the complete text of each announcement.

Month View is a grid like a traditional calendar, with event titles linked to complete announcements.



Career Connection

RSNA's Career Connection (careers.rsna.org) is quickly becoming an important online job resource for the radiologic community. Visits to the site more than doubled from November to December alone.

Career Connections offers resume posting as well as hundreds of job offerings. Comprehensive search capabilities make it easy to search for a job you are seeking or strong candidates for a job you are offering.

RadiologyInfo™ Adds New Procedures

The RSNA-ACR patient education Web site, *RadiologyInfo*™ (www.RadiologyInfo.org), recently added five new procedures. They are:

- MR imaging of the spine
- CT of the spine
- CT of the chest
- Intensity-Modulated Radiation Therapy
- Detachable Coil Embolization

The site allows patients to enhance their knowledge about radiologic procedures and therapies in very understandable terms. It tells them why the procedure is being done, what to expect, what the equipment looks like, what preparation is appropriate and what risks may be involved. The site averaged more than 87,000 visitor sessions per month in 2003.

Medical Meetings

April – June 2004

MARCH 28–APRIL 1

Society of Thoracic Radiology (STR), Annual Meeting, Westin Mission Hills Resort, Rancho Mirage, Calif.
• www.thoracicrad.org

APRIL 8–10

Japan Radiological Society (JRS), 63rd Annual Meeting, Pacific Convention Plaza, Yokohama, Japan
• www.radiology.or.jp/english/index.htm

APRIL 21–24

Association of University Radiologists (AUR)/Society of Chairmen of Academic Radiology Departments (SCARD)/Association of Program Directors in Radiology (APDR)/American Association of Academic Chief Residents in Radiology (A³CR²), 52nd Annual Meeting, San Francisco Marriott, San Francisco • www.aur.org

APRIL 21–24

Sociedade Paulista de Radiologia e Diagnóstico por Imagem (SPR), 34th Sao Paulo Radiology Meeting, ITM Expo Convention Center, Sao Paulo, Brazil • www.spr.org.br

APRIL 24–25

American Osteopathic College of Radiology (AOCR), Mid-Year Conference–Mammography, Hilton Chicago O'Hare Airport, Chicago • www.aocr.org

APRIL 24–27

Radiation Research Society (RRS), 51st Annual Meeting, Adams Mark Hotel, St. Louis • www.radres.org

APRIL 27–MAY 1

Society for Pediatric Radiology (SPR), Westin Savannah Harbor, Savannah, Ga. • www.pedrad.org

APRIL 28–MAY 1

Asian Oceanian Congress of Radiology, 10th Annual Meeting, Raffles City Convention Centre, Singapore • lennytan@nus.edu.sg

MAY 2–7

American Roentgen Ray Society (ARRS), 104th Annual Meeting, Fontainebleau Hotel Resort and Towers, Miami Beach
• www.rrs.org

MAY 8–13

American College of Radiology (ACR), Annual Meeting and Chapter Leader Conference, Hilton Washington, Washington, D.C.
• www.acr.org

MAY 15–21

International Society for Magnetic Resonance in Medicine (ISMRM), 12th Scientific Meeting and Exhibition, Kyoto International Conference Hall, Kyoto, Japan • www.ismrm.org

MAY 19–22

German Radiology Congress, Deutsche Röntgenkongress 2004, Wiesbaden, Germany • www.drg.de

MAY 20–22

34th Annual Conference on Chest Disease, The Fleischner Society for Thoracic Imaging and Diagnosis, Orlando, Fla.
• www.fleischner.org

MAY 20–23

Society of Computer Applications in Radiology, SCAR 2004, Vancouver Convention & Exhibition Centre, British Columbia
• www.scar.net.org

JUNE 5–11

American Society of Neuroradiology (ASNR), 42nd Annual Meeting, Washington State Convention & Trade Center, Seattle
• www.asnr.org

JUNE 6–8

U.K. Radiological Congress 2004, UKRC, Manchester, U.K.
• www.ukrc.org.uk

JUNE 12–16

American Medical Association (AMA), House of Delegates Annual Meeting, Hyatt Regency, Chicago • www.ama-assn.org

JUNE 15–18

European Society of Gastrointestinal and Abdominal Radiology (ESGAR), 15th Annual Meeting and Postgraduate Course, Geneva, Switzerland • www.esgar.org

JUNE 19–23

Society of Nuclear Medicine (SNM), Pennsylvania Convention Center, Philadelphia • interactive.snm.org

JULY 23–25

Leadership Strategies for Radiology Practices, RSNA Education Center, Chicago Marriott Downtown
• www.rsna.org/education/shortcourses

NOVEMBER 28–DECEMBER 3

RSNA 2004, 90th Scientific Assembly and Annual Meeting, McCormick Place, Chicago • www.rsna.org

RSNANews

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