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See Page 23

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UP FRONT

- 1 First Impression
- 4 My Turn

FEATURES

- 5 India Ushers in New Era of Advanced Imaging
- 7 Ultrasound Telemedicine Project Improves High-risk Obstetric Healthcare
- 11 User Feedback Fuels RSNA's Innovative Website Redesign
- 13 LI-RADS Enables Standardized Interpretation, Reporting of HCC

RADIOLOGY'S FUTURE

- 9 Resources Help Residents Make Radiology Their Business
- 15 R&E Foundation Donors

NEWS YOU CAN USE

- 18 Journal Highlights
- 19 Radiology in Public Focus
- 19 Annual Meeting Watch
- 20 Education and Funding Opportunities
- 22 For Your Benefit
- 22 Residents & Fellows Corner
- 23 *RSNA.org*



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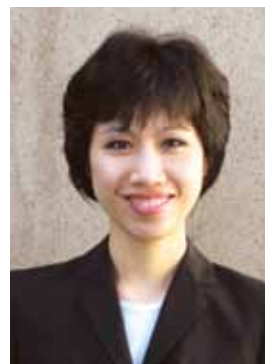
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AAWR ANNOUNCES 2011 AWARDS

The American Association for Women Radiologists (AAWR) has announced its 2011 award recipients:

Zhongxing Liao, M.D., a professor and medical director in the Department of Radiation Oncology at the University of Texas MD Anderson Cancer Center in Houston, received the Marie Sklodowska-Curie Award. Dr. Liao is president of the AAWR Research and Education Foundation.

Mai-Lan Ho, M.D., a third-year radiology resident in the Scholar's Track Program at Beth Israel Deaconess Medical Center in Boston, received the Lucy Frank Squire Distinguished Resident Award in Diagnostic Radiology.

Ana Ponce Kiess, M.D., Ph.D., a fourth-year resident in the Department of Radiation Oncology at Memorial Sloan Kettering Cancer Center in New York, was honored with the Eleanor Montague Distinguished Resident Award in Radiation Oncology.

RSNA Online Education, Research Courses Qualify for New Leadership Certificate

SELECT *RadioGraphics* CME articles, as well as RSNA online refresher courses and an online Self-Assessment Module (SAM), "When the Physician is the Problem," all count toward the Certificate of Achievement offered by the new Academy of Radiology Leadership and Management (ARLM). ARLM helps radiologists focus their professional development by prescribing 50 hours of education across a spectrum of core learning domains including financial skills, human resources, professionalism, legal/contracting and academic mission.

ARLM is sponsored by RSNA and the American Roentgen Ray Society, Association of University Radiologists and Society of Chairs in Academic Radiology Departments. Go to www.radleaders.org to learn more about earning the certificate. A feature article about the new academy will also appear in the March issue of *RSNA News*.



Numbers in the News

5

Number of categories in the Liver Imaging Reporting and Data System (LI-RADS), a new system for classifying hepatic lesions on CT and MR imaging in patients with suspected hepatocellular carcinoma. [Read more about LI-RADS on Page 13.](#)

43

State ranking of Arkansas in infant mortality. A new telemedicine program is reducing medical complications to high-risk pregnant women and cutting infant mortality rates in Arkansas' rural areas; [read more on Page 7.](#)

388

Total number of patients included in two studies that tested ultrasound and MR imaging effectiveness in determining acute appendicitis for patients in the emergency department. [Turn to Page 6 to learn more about these studies presented at RSNA 2011.](#)

59,097

Total registration for RSNA 2011, an increase of almost 2 percent over the 2010 annual meeting. [Get other facts and figures about RSNA 2011, including attendance for the first-ever virtual meeting, on Page 19.](#)

Sumkin is Endowed Chair at UPMC

JULES SUMKIN, D.O., has been named the Endowed Chair in Women's Imaging at the University of Pittsburgh Medical Center (UPMC). Dr. Sumkin is a professor of radiology and chief of women's imaging at UPMC.

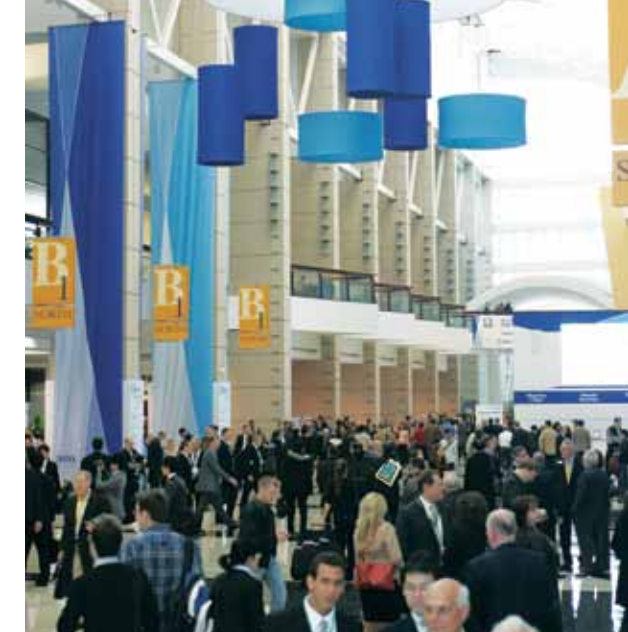


RSNA 2011 Attendees Support Diagnostic Imaging Services Protection Act; CMS Changes Course on MPPR

Hundreds of RSNA 2011 attendees stopped by the American College of Radiology (ACR) booth to learn about H.R. 3269, the Diagnostic Imaging Services Protection Act, while more than 60 attendees who visited the booth e-mailed their congressmen to register support for the legislation. At RSNA 2011, ACR provided dedicated terminals that visitors could use to contact their members of Congress to ask them to cosponsor the bill and protect patient access to diagnostic imaging. The proposed legislation, which has garnered more than 150 bipartisan cosponsors, seeks to prevent the Centers for Medicare and Medicaid Services' multiple procedure payment reduction (MPPR) for radiologists from taking effect in January.

The MPPR imposes a 25 percent payment reduction to the professional interpretation of advanced diagnostic imaging services for multiple imaging studies administered to the same patient, by physicians in the same practice setting on the same day.

On Dec. 19 CMS announced that "operational limitations" would prevent the agency from applying the professional component MPPR to group practices in 2012, meaning that CMS will not apply the MPPR to imaging services performed by separate physicians in the same group practice. However, CMS still plans to apply the MPPR to services performed by the same physician to the same patient during the same session. ACR continues its efforts to



reverse this decision through H.R. 3269.

Go to www.acr.org to stay up-to-date on the progress of H.R. 3269 and other Congressional activity affecting imaging reimbursement, including the fate of a 27 percent cut to Medicare physician reimbursement statutorily required by the Sustainable Growth Rate (SGR) formula. In December, Congress postponed the cut for two months as part of the payroll tax cut extension package; the cut will take effect March 1 unless Congress acts again.

RSNA R&E Foundation Offers Charitable Gift Annuities in New States

RSNA has been approved to offer charitable gift annuities in Florida, New Jersey, New York and Texas, which join more than 20 states where donors can take advantage of this type of donation. A charitable gift annuity provides a donor with immediate and future income tax deductions while guaranteeing a fixed annuity payment for life. Based on age, fixed annuity rates range from 4.4 to 9 percent.

To see a customized annuity rate calculation and benefit summary, visit RSNA.org/PlannedGiving and click on Gift Calculator.



Pollak Named to Inaugural Post at Yale

Jeffrey S. Pollak, M.D., has been appointed the inaugural Robert I. White Jr., M.D., Professor of Interventional Radiology at Yale University in New Haven, Conn. Dr. Pollak is the co-section chief of vascular and interventional radiology and director of the vascular and interventional radiology fellowship program at Yale. The Robert I. White Jr., M.D., Professorship was established through the generosity of Dr. White's patients and friends to support the teaching, research and clinical activities of a full-time faculty member in interventional radiology.



White (left), Pollak

RTOG Names Lu Chair of Lung Cancer Subcommittee

The Radiation Therapy Oncology Group (RTOG) has appointed **Bo Lu, Ph.D.**, as chair of the lung cancer subcommittee of the Translational Research Program Committee, which supports the integration of new scientific discoveries into the design of multicenter clinical trials.

Dr. Lu is a professor in the Department of Radiation Oncology at Thomas Jefferson University in Philadelphia, where he also serves as director of the department's division of molecular radiation biology.





New Spanish-language Session at RSNA 2011 a Success

RSNA 2011 saw the launch of a new session, *Imagen Oncologica: Sesión de Actualización del Colegio Interamericano de Radiología*, or **Oncologic Imaging: An Update from the Interamerican College of Radiology (CIR)**. The series of presentations for the Spanish-speaking radiologic professional focused on topics such as key imaging findings in common neoplasms, imaging modalities for diagnosis staging and therapy monitoring, imaging strategies for early cancer detection and appropriate utilization of imaging in oncologic processes. CIR President **Oswaldo Ramos, M.D., Ph.D.** (left), presented a plaque to 2012 RSNA President **George S. Bisset III, M.D.**, to acknowledge Dr. Bisset's efforts to develop the session; (right) presenters from the session gathered at RSNA 2011.



CMS Program Assists Physician Identity Theft Victims

The Centers for Medicare & Medicaid Services (CMS) has created the provider victim validation/remediation initiative for physicians whose identification has been stolen and used to defraud federal health programs.

The new initiative assists legitimate providers who have suffered unwarranted financial liability as a result of having their identities stolen by thieves who use those identities to fraudulently bill Medicare.

CMS, in coordination with its Program Integrity Contractors, has established points of contact throughout the country that providers can access if they have been the victims of identity theft and suffered financial liability as a result. These contractors, which operate according to region and state, can investigate instances of identity theft after being notified by a potential victim.

The American Medical Association lists contact information for the contractors on its website (www.ama-assn.org/resources/doc/washington/identity-theft-victim-program-letter-oct2011.pdf).

IN MEMORIAM:

Irvin Hawkins, M.D.

Interventional radiology pioneer **Irvin Hawkins, M.D.**, known for developing C02 angiography, died June 8, 2011 at the age of 74.

A professor of radiology and surgery at the University of Florida for more than 50 years, Dr. Hawkins is also recognized for groundbreaking work in needle and catheter design, with smaller catheter sizes that reduced complication rates and made more minimally invasive techniques possible. Dr. Hawkins was the first physician in the world to safely perform a percutaneous cholecystostomy more than 30 years ago.



Dr. Hawkins began his career at Florida in 1968 as the National Institutes of Health fellow and special trainee in cardiovascular radiology. He became chief of interventional radiology in 1969, a position he held for the next 30 years.

ASNR Awards Drayer Gold Medal

2011 RSNA President **Burton P. Drayer, M.D.**, was awarded the 2011 American Society of Neuroradiology (ASNR) Gold Medal. Dr. Drayer is a past-president of ASNR and a founding member.

An expert on CT and MR imaging of neurological disorders, Dr. Drayer is the Dr. Charles M. and Marilyn Newman Professor and chair of the Department of Radiology at The Mount Sinai School of Medicine and executive vice-president for risk at The Mount Sinai Medical Center in New York City. He served as president of The Mount Sinai Hospital from November 2003 to September 2008.

Dr. Drayer has also served on the Board of Trustees of the Research & Education (R&E) Foundation.



IN MEMORIAM:

Stuart S. Sagel, M.D.

Stuart S. Sagel, M.D., one of the founding members of the Society of Computed Body Tomography and co-author of a seminal textbook on body CT and MR, died Nov. 11, 2011. He was 71.

Dr. Sagel served as president of the Society of Computed Body Tomography (now the Society of Computed Body Tomography and Magnetic Resonance) from 1983 to 1984. A leader in thoracic CT since its earliest days, Dr. Sagel co-authored in 1989 the first edition of *Computed Body Tomography with MRI Correlation* with Joseph K.T. Lee, M.D., and Robert J. Stanley, M.D.

Dr. Sagel came to Washington University in St. Louis in 1972 and spent the remainder of his career there, serving as a professor of radiology and director of the chest radiology section in the Mallinckrodt Institute of Radiology.



My Turn

Educating Residents about the Business of Radiology

Academic radiology departments do a great job at turning out trainees who are very well versed in the science of radiology. But we've fallen down in training them to understand the business of radiology. In an age when government regulations, payer policies, medical politics and the possibility of healthcare reform are making it harder and harder to run a successful practice, it's crucial that young radiologists come out of training with a solid understanding of the business and socioeconomic aspects of the field.

The challenges are how to come up with a comprehensive radiology business curriculum, how to fit it into the already-overcrowded teaching schedule, where to find knowledgeable instructors and how to get residents to appreciate the importance of something that won't be

asked on the boards. Despite these challenges, I believe it's a real imperative that we get going on this.

At the most basic level, residents have to learn how radiologists get paid and what they need to do to ensure that they collect what they're entitled to. I was recently dismayed to learn that many residents don't know what a CPT code is. They don't realize that that they're about to encounter a whole alphabet soup out there that they need to know about - P4P, ICD, AR, ACO, MPFS, PE/HR, RBRVS, PQRS, RUC, MPPR, GPCI, MedPAC, AHIP and a ton of others. There are many other nonfinancial aspects they need to know about, too, such as how to promote quality, how to relate to other specialties, how to get along with their hospital administrations,

how to understand new practice and payment models, etc.

I'm glad to see organizations like RSNA, the American College of Radiology and others working to develop curricula covering all this. In addition, each individual academic department has to get to work developing their own resources. The sooner the better!

Vijay M. Rao, M.D., is The David C. Levin Professor and Chair of Radiology at Jefferson Medical College of Thomas Jefferson University. Dr. Rao was recently named to the RSNA Board of Directors and is serving as liaison-designate for annual meeting and technology in 2012.



Read, "Resources Help Residents Make Radiology Their Business," on Page 11.

Chaudhari Receives Two Imaging Awards

Abhijit J. Chaudhari, Ph.D., an assistant professor of radiology at the University of California, Davis in Sacramento, has received two honors for his contributions to medical imaging.

The Nuclear Medical and Imaging Sciences Council of the Institute of Electrical and Electronics Engineers (IEEE) awarded Dr. Chaudhari the 2011 Bruce H. Hasegawa Young Investigator Medical Imaging Science Award in October at the 2011 IEEE Nuclear Science Symposium and Medical Imaging Conference in Valencia, Spain.

The IEEE gives the Hasegawa Award annually to a young individual in recognition of significant and innovative contributions to the field of medical imaging science.

The American College of Rheumatology selected one of Dr. Chaudhari's images as the winner in the Still Image Category of the 2011 Annual Image Competition at the college's annual meeting in Chicago in December.



Abhijit J. Chaudhari, Ph.D., (left) accepts his 2011 Bruce H. Hasegawa Young Investigator Medical Imaging Science Award from Anna Celler, Ph.D., chair of the Nuclear Medical and Imaging Sciences Council of the Institute of Electrical and Electronics Engineers Awards/Fellows Sub-Committee.

Dr. Chaudhari investigates advanced clinical imaging technologies to study the pathogenesis of arthritis and cancers, concentrating on early detection of disease and early monitoring of response to treat-

ment. To view his winning image, go to www.rheumatology.org and click Education & Career, Annual Meeting, Annual Image Competition.

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India Ushers in New Era of Advanced Imaging

Despite having started late in the field of antenatal MR—due to limited availability of state-of-the-art MR scanners, concerns about MR imaging safety and the legal issues related to prenatal sex determination—India is now almost on par with its Western colleagues in using the modality in clinical practice, according to a co-presenter of the “India Presents” session at RSNA 2011.

ANTENATAL MR is now an important imaging tool, second line after ultrasound, and is rapidly moving from select academic medical centers into community practice in India, said Nitin P. Ghonge, M.D., D.N.B., M.B.B.S, an investigator at Diwan Chand Imaging Research Center in New Delhi.

In their assessment of MR and MR spectroscopy applications for evaluating the mother and fetus, Dr. Ghonge and colleagues found that MR proved most useful in fetal anomaly screening in high-risk pregnancy, oligohydramnios, fetal CNS assessment, characterization of fetal mass, fetal spine assessment, delineation of fetal alimentary tract and other abdominal viscera, conjoined twin assessment and evaluation prior to antenatal intra-uterine fetal surgery or ex-utero intrapartum procedures.

The team incorporated both state-of-the-art and time-honored traditional techniques, planned with the fetal biological clock in mind. “We have the mother walk before antenatal MR in an attempt to induce fetal sleep,” Dr. Ghonge said. “We also schedule our patients according to the fetal biological clock and scan during the phase of minimal fetal movements.”

The team is also exploring MR spectroscopy to detect antenatal fetal hypoxia and lung maturity status and anticipate an increasing role for diffusion-weighted MR in antenatal imaging of placenta and fetal kidneys and lungs in the near future, Dr. Ghonge said. “Antenatal MR is surely an up-and-coming area of imaging in India,” he said. “Greater academic collaboration between RSNA and our national radiology society will definitely play a crucial role in this direction.”

Also during “India Presents,” Natesan Chidambaranathan, M.D., demonstrated the use of proton MR spectroscopy in characterizing intracranial cystic lesions, including those more common in India than in North America, such as tuberculous abscesses and parasitic cysts.

“Characterization based on MR alone may be difficult,” said Dr. Chidambaranathan, head of radiology at Apollo Hospitals in Chennai. “And CT and MR, even with diffusion-weighted imaging, cannot reliably differentiate a cystic/necrotic glioma or a cystic/necrotic metastatic lesion, from an intracranial abscess, due to the overlap of imaging findings.”



Ghonge

Chidambaranathan

MR spectroscopy provides unique information because certain metabolites, including acetate, succinate and/or amino acids other than lactate, are frequently observed in brain abscesses and cysticercosis, Dr. Chidambaranathan said. “Pathologically, the pyogenic brain abscesses contain large amounts of neutrophils and proteins. The breakdown of the neutrophils results in the release of a large amount of proteolytic enzymes that hydrolyze the proteins into amino acids. These metabolites have never been detected in cystic and necrotic brain tumors, and can be considered a specific marker for cerebral abscesses.”

“Greater academic collaboration between RSNA and our national radiology society will definitely play a crucial role in this direction.”

Nitin P. Ghonge, M.D., D.N.B., M.B.B.S.

On the other hand, tuberculous abscesses teem with mycobacteria along with lymphocytes and some neutrophils, Dr. Chidambaranathan said. The mycobacteria are predominantly composed of lipids, with a relative lack of proteolytic enzymes.

Even different types of brain tumors can be differentiated from each other. “Cystic meningioma could be differentiated from cystic schwannoma by the presence of alanine in the former,” Dr. Chidambaranathan said.

Daily Bulletin coverage of RSNA 2011 is available at RSNA.org/bulletin.

“India Presents,” presented in conjunction with the Indian Radiological and Imaging Association (IRIA), was the latest in a series of annual sessions celebrating radiology innovation and collaboration around the world. “Brazil Presents” is scheduled for RSNA 2012. □



Natesan Chidambaranathan, M.D., demonstrated the use of proton MR spectroscopy in characterizing intracranial cystic lesions, including those more common in India than in North America, at RSNA 2011.

Appendicitis Also the Focus of International Research

Other international investigators presenting their research at RSNA 2011 demonstrated how ultrasound and MR imaging are proving effective in diagnosing acute appendicitis for patients in the emergency department.

Javier Fernandez-Jara, M.D., Ph.D., a radiology resident at Hospital Universitario Severo Ochoa in Madrid, Spain, shared results of a retrospective study of 165 patients who had undergone an emergency appendectomy in the facility in 2010. The study showed that 116 patients, or 70 percent, underwent imaging tests prior to the appendectomy and that ultrasound was the most frequent imaging test (50 percent).

“Ultrasound should be the first imaging modality used to evaluate patients with suspected acute appendicitis,” Dr. Fernandez-Jara said. “It has been proven especially useful in young patients with either high C-reactive protein (CRP) and/or leukocytosis.”

All tests—ultrasound, CT and ultrasound plus CT—yielded high sensitivity (97 percent, 100 percent and 100 percent respectively) and high positive predictive values (89 percent, 89 percent and 91 percent respectively). Ultrasound was used extensively in 6- to 30-year-old age group. Researchers found negative results for CRP in 51 (30 percent) and negative results for leukocytosis in 43 (27 percent) in the pathology-proven cases of appendicitis. Only 10 patients (6 percent) presented with neither CRP increased-values nor leukocytosis.

“Not only is ultrasound useful in ruling out appendicitis, but also in the differential diagnosis of acute appendicitis mimickers without patient radiation exposure,” Dr. Fernandez-Jara said.

MR imaging is also gaining ground in evaluating suspected appendicitis, according to Marjolein Leeuwenburgh, M.D., a Ph.D. student at Academic Medical Center Amsterdam, the Netherlands. She and colleagues evaluated 223 MR imaging scans of patients with suspected appendicitis to identify MR imaging features associated with acute appendicitis, and



Fernandez-Jara

Leeuwenburgh

assessed the probability of appendicitis if combinations of those features were present.

Results showed that features with the strongest association with acute appendicitis were appendix diameter (less than 7 mm), periappendiceal fat infiltration and restricted diffusion of appendiceal wall. Presence of those features leads to a high probability—96 percent—of appendicitis. Appendicitis was present in 3 percent of cases without those features.

“MR imaging has entered the emergency department for patients with suspected appendicitis,” Dr. Leeuwenburgh said. “However, most radiologists are not familiar with this relatively new modality for evaluating suspected appendicitis. Knowledge of the diagnostic value of specific MR imaging features can help radiologists increase their performance.” □

Ultrasound Telemedicine Project Improves High-risk Obstetric Healthcare

Obstetric ultrasound performed with portable telemedicine units is reducing medical complications to high-risk pregnant women and cutting infant mortality rates in Arkansas' rural areas, according to research presented at RSNA 2011.

RESULTS OF the statewide telemedicine model, Antenatal and Neonatal Guidelines, Education and Learning System (ANGELS), were presented by Megan Long, M.D., a first-year radiology resident at the University of Arkansas for Medical Sciences (UAMS). "The mission of ANGELS is to ensure that every woman in Arkansas at risk of having a complicated pregnancy receives the best possible perinatal care," Dr. Long said.

Created in 2003, ANGELS allows local providers to care for their patients while simultaneously delivering the specialty expertise found at UAMS, the state's only academic medical center and tertiary care facility. Federal Medicaid dollars, overseen by the Arkansas Medicaid program, fund the telemedicine equipment that the ANGELS program provides at no cost to rural providers.

Obstetric ultrasound examinations are performed locally with portable ultrasound units, to assist diagnosis and management of high-risk pregnancy conditions, Dr. Long said. UAMS holds weekly teleconferences using real-time audio/video conferencing for providers across the state to review real-time targeted, Level II ultrasounds.

Experts at UAMS help local providers detect and manage maternal and fetal complications including congenital anomalies, oligohydramnios or polyhydramnios, and maternal medical disorders such as diabetes, hypertension and autoimmune disorders, Dr. Long said.

Since the inception of ANGELS, high-risk pregnancies have been identified more frequently and earlier in the pregnancy. In the first two years of the program, the proportion of low birth weight infants from rural areas delivered at UAMS increased from 37.7 percent to 42.1 percent and the 60-day mortality rate dipped by 0.5 percent, Dr. Long said.

While it was initially thought that fewer medical complications would result in savings for the Arkansas Medicaid program, more data has since been collected indicating that ANGELS does not reduce those Medicaid expenditures, Dr. Long said.

Since 2003, more than 7,500 telemedicine conferences have been held—1,822 in 2010 alone—while the number of telemedicine consultations performed each year has grown from 215 in 2003



Long

to 3,306 in 2010, Dr. Long, said. Of the 27 telemedicine clinic sites throughout Arkansas, 18 are equipped to provide real-time, Level II ultrasound examinations.

Such a project is especially critical in Arkansas, which ranks 48th in overall health, 38th in low birth weight, 40th in preterm births, 41st in prenatal care and 43rd in infant mortality, Dr. Long said. Additionally, 73 of 75 counties are designated as medically underserved.

"Healthcare access is one of the reasons for Arkansas' poor health standing," Dr. Long said.

“The mission of ANGELS is to ensure that every woman in Arkansas at risk of having a complicated pregnancy receives the best possible perinatal care.”

Megan Long, M.D.



Portable telemedicine units, such as the equipment above being demonstrated at a recent RSNA annual meeting, used to perform obstetric ultrasound exams in high-risk women living in Arkansas are reducing medical complications and cutting infant mortality rates, according to RSNA 2011 researchers.

Women residing in rural and underserved areas often lack access to regional perinatal centers and maternal fetal medicine subspecialists who can assist local providers with the diagnosis and management of high risk pregnancy conditions, Dr. Long added.

ANGELS was the first project of its kind in the state and the nation. Last year, the program received more than \$102 million from the American Recov-

ery and Reinvestment Act grant for the Arkansas Healthcare, Higher Education, Public Safety, and Research Integrated Broadband Initiative, which will allow for upgrading the broadband network as well as access to more than 450 sites across Arkansas by 2013. The American Telemedicine Association is advocating for the ANGELS program to be funded in other states. □

Daily Bulletin coverage of RSNA 2011 is available at RSNA.org/bulletin.

Other Technology also Poised to Improve Patient Care

Patients will also benefit from other technology presented at RSNA 2011, including next-generation image sharing via the Internet and cloud, rather than films or even CDs. Such sharing offers workflow efficiency to physicians and enhances patient safety and care by connecting healthcare institutions in new ways, say RSNA 2011 attendees who experienced the Integrating the Healthcare Enterprise (IHE®) Image Sharing Demonstration.

Of particular interest was the new RSNA Image Share, a secure, patient-centric medical image sharing network that enables patients to control access to their information through personal health records (PHR) without relying on CDs.

The future of medical imaging and reports is on the edge of great change, said another visitor, Ben Arnold, Ph.D., of Columbia, Ky. "Cloud computing and electronic medical exams are going beyond what DICOM was a few years ago," he said. "The patient is the winner here."

"It has great potential for giving patients access to their own information," added Sherie Lem, M.P.H., of New York. "Even if the referring physician is not affiliated with the network, as long as the radiologist is in the network, patients have access to the cloud. It means patients have control over their own images and reports, and no more CDs."

RSNA Image Share was launched in 2009 through a \$4.7 million contract with the National Institute of Biomedical Imaging and Bioengineering (NIBIB) and is being tested at five sites.

Also presented at RSNA 2011 was an ontology-driven electronic health record (EHR) search system with the potential to improve the quality of emergency department care by providing radiologists quick summaries of a patient's essential past medical histories in the emergency department.

"EHRs improve image interpretation quality because information is shared," said Arun Krishnaraj, M.D., M.P.H., of the



Krishnaraj

Department of Radiology at Massachusetts General Hospital (MGH), Boston. "Unfortunately, a lot of the information in an EHR is scattered through multiple data repositories and there are few applications that cull together the important pieces and present them in a timely and digestible manner."

The Queriable Patient Inference Dossier (QPID) search system created by Dr. Krishnaraj and colleagues extracts critical, detailed information from a patient's record in less than a minute, offering a quick overview of a patient's condition based on many different searches. "The system essentially aggregates and indexes all the information in an electronic health record and prepares it for these searches," Dr. Krishnaraj said.

Searches with potential to directly impact imaging utilization in the emergency department include deep vein thrombosis (DVT), pulmonary embolism, evidence of prior ectopic pregnancy, prior imaging studies and presence of an automatic implantable cardioverter defibrillator, Dr. Krishnaraj said. □

Resources Help Residents Make Radiology Their Business

Although radiology residents are equipped with a wealth of medical knowledge and experience in patient care, most leave their training unprepared to handle the economic, financial and leadership challenges that await them, experts say.

"QUITE FRANKLY, the degree and extent of business training for radiologists today is miniscule," said William T. Thorwarth Jr., M.D., a nationally recognized expert on radiology economics and reimbursement and RSNA Board Liaison for Publications and Communications. "Even the more sophisticated academic departments don't include the business of radiology in their training."

The business of radiology covers a wide array of issues including coding and compliance, medicolegal issues and marketing. Knowledge of these subjects can spell the difference between financial success and failure, especially in today's challenging economic and regulatory environment, said David Yousem, M.D., M.B.A., a professor in the Department of Radiology, vice-chair of program development and director of neuroradiology at Johns Hopkins Hospital in Baltimore.

"In these times of declining reimbursements, more radiologists in both the private and academic setting are recognizing the importance of understanding the expense-reimbursement side of the business of radiology," Dr. Yousem said.

Fortunately, an increasing number of tools and resources—some fueled by recent changes in health-care reform—are becoming available to help radiology residents increase their business savvy.

Free, Online Business Course Targets Residents

Dr. Yousem created a free online course to help prepare radiology trainees for the economic, financial and leadership challenges they will face in a private or academic setting. The project, "Developing an Online Curriculum for Teaching the Business of Radiology," was developed through a 2008-2010 Philips Medical Systems/RSNA Research & Education Foundation (R&E) Education Scholar Grant.

Available via RSNA.org, (see sidebar) Dr. Yousem's course includes PowerPoint presentations and more than 20 lectures covering a range of business topics such as accounting, human resources and malpractice mitigation.

"My goal was to create a relatively all-inclusive online syllabus for radiologists to improve their business skills since it was my contention that those entering practice from most training programs are ill-prepared to deal with the business issues in their practice," Dr. Yousem said.



Yousem

Thorwarth

Additionally, more business-oriented CME courses are being created and more residency programs are adding business-financial material to their trainee curricula, Dr. Yousem said. Print and electronic resources are also on the rise, while the RSNA annual meeting remains a useful source of information.

"In these times of declining reimbursements, more radiologists in both the private and academic setting are recognizing the importance of understanding the expense-reimbursement side of the business of radiology."

David Yousem, M.D., M.B.A.



Topics ranging from "I Want to Make Money in Radiology" to "Demystifying Credentialing, Accreditation and Certification" are included in the free online course, "The Business of Radiology" offered by David Yousem, M.D., M.B.A., pictured in the above videos. Users can view PowerPoint presentations and more than 20 videos by Dr. Yousem.

At RSNA 2011, Dr. Thorwarth was among the presenters of an entire program—"Career 101: Planning for Success After Residency"—devoted to residents and fellows, while Dr. Yousem presented the course, "Hospital Issues: Business of Radiology" and was among the presenters of, "Mind Your Own Business: Required Business Skills for Your First Job."

Dr. Thorwarth urged residents to stay in tune with the policymakers who create the laws that govern the specialty. "Radiologists have to learn to speak the language of legislators and third-party payers and learn how decisions made by these groups have an impact on their business office," he said. "They're not always in sync with you on what your work is worth."

Mentors Critical to Filling Knowledge Gaps

Regardless of their business acumen, residents are aware that such knowledge is critical to the specialty. In a survey of 39 graduates of the Johns Hopkins radiology residency training program, Dr. Yousem discovered that 34 were uncomfortable with business principles and 35 had received less than 10 hours of teaching on the subject. All 39 said they believed there was a benefit to business courses.

Strong mentorship is one way to make up for such shortfalls in education, Dr. Yousem said. He credits his mentor at Johns Hopkins, Elias A. Zerhouni, M.D., former director of the National Insti-

tutes of Health, with imparting the importance of business knowledge in radiology.

"Dr. Zerhouni relied on the Division of Neuro-radiology to account for a significant portion of the profit margin of the department and expected me to manage my division in a way that ensured that profitability," Dr. Yousem said. "While he did not explicitly tell me to enter business school, he was pleased when I told him I was pursuing a Johns Hopkins Business of Medicine degree. My current chairman, Jonathan Lewin, M.D., also challenged me to assist our department in growing new services in radiology. Nowadays, I find the business of radiology to be a nice niche in my academic pursuits and have enjoyed the ability to bring new material to trainees and practitioners to foster that knowledge."

Along with supplementing their education through research and other programs, Dr. Thorwarth urged newly minted radiologists to find out as much as they can about the business side of operations during interviews with prospective employers.

"Be inquisitive about the business information," he advised. "Is it outsourced or done in house? How sophisticated are the people running the process? Does the practice have certified coders turning reports into claims?"

"A practice's fiscal viability is dependent on being paid for services provided," added Dr. Thorwarth. "You should get paid for what you do." □

WEB EXTRAS

☑ **The Business of Radiology online course:** This free, on-line course by David Yousem, M.D., M.B.A., is available through the Education Collection for Residents page at RSNA.org/Education/archive/residents.cfm (click the "The Business of Radiology" link). View PowerPoint presentations and more than 20 videos by Dr. Yousem.

☑ **"Radiology Business Practice: How to Succeed,"** edited by Dr. Yousem and Norman J. Beauchamp, M.D., M.H.S. (This text provided a basis for Dr. Yousem's online course)—www.cmeinfo.com

☑ **The Radiology Business Management Association,** www.rbma.org.

☑ **Academy of Radiology Leadership and Management,** www.radleaders.org

☑ **Radiology Leadership Institute,** www.acr.org/RLI

GRANTS IN ACTION

NAME:

David Yousem, M.D., M.B.A.

GRANT RECEIVED:

\$150,000 Philips Medical Systems/RSNA Education Scholar Grant, 2008-2010

STUDY:

"Developing an Online Curriculum for Teaching the Business of Radiology."

CAREER IMPACT:

After spending his early career focusing on research in neuroradiology, Dr. Yousem devoted time provided by the RSNA Education Scholar Grant to develop the business of radiology curriculum that allowed him to organize research projects in operations management. "Now, I am equally fascinated by quality assurance issues, utilization trends and critical findings enforcement as part of my academic pursuits," Dr. Yousem said. "Also, I have something else to speak to trainees about besides the brain, spine, and head and neck."

CLINICAL IMPLICATIONS:

Dr. Yousem urges radiologists to remember this saying: "No margin, no mission." "By managing the revenue/expense equation, you can build better services for patients and subsidize the research and training missions of academic practice," he said.

For more information on all R&E Foundation grant programs, go to RSNA.org/Foundation or contact Scott Walter, M.S., Assistant Director, Grant Administration at 1-630-571-7816 or swalter@rsna.org.

User Feedback Fuels RSNA's Innovative Website Redesign

YOU SPOKE. WE LISTENED.

BEFORE LAUNCHING the comprehensive redesign of *RSNA.org*—to be introduced in early 2012—RSNA gathered feedback from the users who have long made the Society's highly travelled member portal so successful.

After meeting with website stakeholders to assess visitors' needs, RSNA conducted a user survey to find out what functions and features you want most from *RSNA.org*. That feedback was the basis for a new website structure targeting users in five categories—members, trainees, international, exhibitors and media—and guided by one simple principle: ease of navigation.

The new *RSNA.org* consolidates content, creates logical categories and makes it easy for users to access current, relevant information in as few clicks as possible. Expanded social media links on each page keep you connected and increase interactivity. The use of color cues—particularly the multi-colored icons guiding users on each page—gives *RSNA.org* a vibrant look that you will immediately recognize. Above all, the design maintains a visual consistency that gives *RSNA.org* its own unique look and feel.

While the dynamic redesign filled with innovative new features is built for expansion, *RSNA.org* remains unaltered in its primary function: serving as a portal for information and services related to RSNA activities and the radiology profession. Currently, *RSNA.org* delivers more than 200,000 page views per month—numbers that will undoubtedly increase as the visionary redesign takes hold with members across the globe.

"RSNA is always looking forward and our website should reflect that," said RSNA Executive Director Mark G. Watson. "We invite you to review highlights outlined here and—of course—to experience the exciting changes firsthand soon on *RSNA.org*."

HOMEPAGE (below)

A one-stop connection to member resources and services, the homepage also links users to the latest *RSNA News*, *Radiology* and *RadioGraphics* features and spotlights important announcements. Icons guide readers to Society-wide services.

INFORMATICS

Icons link readers to user-friendly technology-based tools including Integrating the Healthcare Enterprise (IHE®), the Medical Imaging Resource Center (MIRC®) and RadLex. A menu connects users to these same resources while offering drop-down subcategories for narrowing content.

SCIENCE & EDUCATION

This page consolidates science and education in one place. Information relevant to both is spotlighted at the top of the page, while science and education are broken into separate categories in the section beneath to allow access to content specific to each. Icons connect users to resources including the CME Repository and Molecular Imaging, while a search engine allows, users to search education content.

MEMBERSHIP

Users can access popular features including membership renewal and links to numerous exclusive benefits—including myRSNA® and R&E Grant Opportunities—identified by colorful logos. Click on the "Belong" icon at the bottom of the page to access all member benefits.

Access the latest science, education and news right from the homepage.

Learn about important programs and deadlines that can boost your career.

Get quick links to the services you use most—like education, journal subscriptions, the annual meeting and more.



Search past and present RSNA News articles.

Comprehensively navigate through RSNA's key services.

RSNA NEWS (above)

Anchored by the lead news story, this page features links to the current month's *RSNA News* feature articles and all other monthly features, including Journal Highlights. Readers can access the *RSNA News* search engine and link to the App Store to download the magazine's tablet edition. A new interactive section features Facebook and Twitter posts.

TRAINEE ROLE-BASED LANDING PAGE (right)

An all-new page, this hub for residents and medical students offers important news and links to resources including RSNA education collections, the *RSNA RF Buzz* newsletter for residents and fellows, Internet-based CME and more. Trainees can join RSNA for free by clicking the icon at the top of the page.

RSNA JOURNALS

Along with information about RSNA's peer-reviewed journals, this page links users to current issues of *Radiology* and *RadioGraphics*, the *Radiology Legacy Collection* and a host of related resources. Users can link to the App Store to download iPhone and iPad editions of both journals.

"RSNA is always looking forward and our website should reflect that."

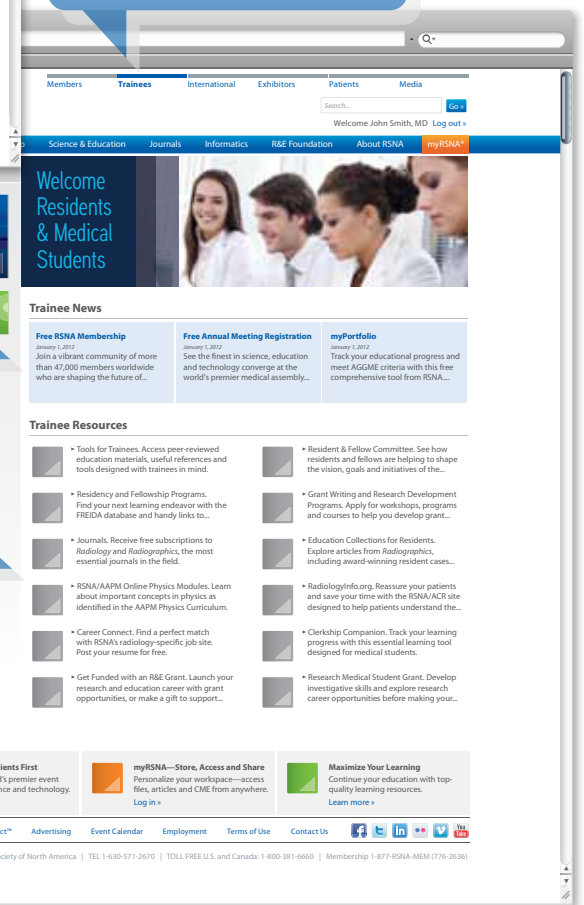
Mark G. Watson
RSNA Executive Director

Dynamic content shows you the latest features affecting your specialty.

"Role-based" content delivers what's most relevant to you based on your profession.

Get personalized content that's most useful to your daily practice.

Access resources—from RSNA and beyond—that best fit your professional needs.



LI-RADS Enables Standardized Interpretation, Reporting of HCC

About six years ago, hepatologists and liver surgeons at the University of California, San Diego (UCSD), were becoming increasingly frustrated with radiologists' inconsistency in interpreting liver lesions in patients with suspected hepatocellular carcinoma (HCC).

"THREE DIFFERENT radiologists could look at the same case and use different words to describe the same thing," said Claude Sirlin, M.D., chief of Body Imaging and Abdominal MRI at UCSD. "Even worse, you could show the same case to the same radiologist on two separate occasions and he could use words like 'equivocal' the first time and 'indeterminate' the second time, and maybe even shift his opinion about that lesion from 'probably benign' to 'probably malignant'."

More confusing, a fourth radiologist could look at the same image and say it was "suspicious for cancer" even though specific criteria to determine exactly how suspicious the lesion was didn't exist.

The need for standardization was becoming critical, said Cynthia Santillan, M.D., an assistant professor and vice-chief of the Body Imaging Section and chief of Body CT at UCSD. "If we can't agree among ourselves, it undermines our credibility with clinicians and also impacts patient care," Dr. Santillan said.

"Clinicians told us we needed to create a system that would help radiologists become more consistent," Dr. Sirlin said.

After developing their own system of reporting based on degree of suspicion of HCC—which was received with the praise and appreciation of their fellow hepatologists—Drs. Santillan and Sirlin learned of similar systems being developed at other institutions around the country. The first step was to combine the UCSD system with that of Thomas Jefferson University Hospital in Philadelphia, which had developed an equivalent system. "We took the best of both, starting with an amalgam of the UCSD and the Thomas Jefferson system."

Efforts to create a universal system ultimately resulted in the American College of Radiology-sponsored committee that created Liver Imaging Reporting and Data System (LI-RADS). The committee, chaired by Dr. Sirlin, grew to include not only radiologists but also hepatologists, transplant surgeons, and other physicians from across the U.S. and the world.

Categorization Leads to Consistency

Officially released in March 2011, LI-RADS includes five categories: (1) Definitely Benign, (2) Probably Benign, (3) Intermediate, (4) Probably HCC, and (5) Definitely HCC. The criteria for the

last category have been constructed to be as specific as possible for HCC, to avoid false positive diagnosis and unnecessary treatment or transplantation, Dr. Santillan said.

"LI-RADS categories aim to reflect the criteria that many expert radiologists use to diagnose HCC," Dr. Santillan said. "Standardized terminology and categories will improve communication between physicians and enable reliable quality control and outcomes analysis."

In presenting, "Liver Imaging Reporting and Data System (LI-RADS): An ACR-supported System for Classification of Hepatic Lesions on CT and MR Imaging in Patients with Cirrhosis," at RSNA 2011, Dr. Santillan stressed the importance of standardization.

"There is a great deal of variability in terms of how people are being screened for hepatocellular carcinoma, using CT or MRI," Dr. Santillan said. "There are vast differences in the types of equipment used, the imaging sequences that are performed, as well as how many post-contrast phases or even pre-contrast phases are obtained in these patients. As you can imagine, the variability in the amount of information available for interpretation leads radiologists to come to different conclusions."

As for reporting, LI-RADS enumerates the elements—including anatomy, number of suspicious lesions and where they're located in the liver—that

“If we have standardized treatment protocols associated with these standardized liver lesions, then we can compare outcomes across institutions and across the world.”

Cynthia Santillan, M.D.



Santillan



The need for standardization in interpreting liver lesions in patients with suspected hepatocellular carcinoma (HCC) led to development of the Liver Imaging Reporting and Data System (LI-RADS), which was discussed by Cynthia Santillan, M.D., (above) at RSNA 2011.

should be mentioned in every report, Dr. Santillan said. "These elements really need to be mentioned every time you're looking at one of these patients, because they can greatly influence the management options that are available to them," she said.

Lexicon, Atlas, Part of LI-RADS Evolution

LI-RADS continues to be a work in progress, Dr. Sirlin said. The committee continues to fine-tune the first version of the project, LI-RADS 1.0, and recruited 100 radiologists from around the world to test the second version, LI-RADS 1.1, in early 2012. LI-RADS 1.1 will be released upon approval, Dr. Sirlin said.

To make LI-RADS more comprehensive, committee members are now developing a lexicon of controlled terminology and an atlas of teaching and illustrative cases, which will "help radiologists in difficult cases arrive at the most appropriate interpretation," Dr. Sirlin said.

While developing criteria for extracellular contrast agents is the focus of LI-RADS 1.0 and 1.1, a working group is being formed to develop criteria for hepatobiliary contrast agents as well, Dr. Santillan said.

Although they may not immediately incorporate hepatobiliary contrast agents, the lexicon and atlas will likely be released sometime in 2012, Dr. Santillan said. "In some respects we have modeled this after Breast Imaging-Reporting and Data System (BI-RADS), which has a very restrained lexicon so that there is a constrained set of terms that can be used to describe findings."

The lexicon will most likely be presented in the form of a digital manual with embedded hyperlinks, said Dr. Santillan, chair of the Lexicon Subcommittee.

The LI-RADS Reporting Subcommittee is developing minimum reporting standards to define what

is needed to put into radiological reports "without being overly onerous," said subcommittee chair Benjamin Yeh, M.D., a professor in the UCSD abdominal imaging department.

The reporting committee is also creating a reporting template that radiologists "can drop into a standardized report so a clinician, regardless of institution, will get similar types of reports with similar types of criteria in a similar type of format," Dr. Yeh said.

LI-RADS is an "an active process that will continue to evolve," with a potentially significant long-term impact, Dr. Santillan said. "If we have standardized treatment protocols associated with these standardized liver lesions, then we can compare outcomes across institutions and across the world," she said. "That can really inform the management of these patients." □

Daily Bulletin coverage of RSNA 2011 is available at RSNA.org/bulletin.

WEB EXTRAS



To watch videos of Drs. Claude Sirlin and Cynthia Santillan discussing the variability that has existed in the imaging, interpretation and reporting of suspected hepatocellular carcinoma—and how LI-RADS provides a solution—go to rsnanews.RSNA.org.

To read the complete LI-RADS criteria, go to www.acr.org and click Quality and Safety Initiatives in the lefthand column.

Continued from previous page

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YOUR DONATIONS IN ACTION



With an RSNA R&E Foundation Grant, **Carolyn Wang, M.D.**, is testing the effectiveness of a newly developed computer-based interactive module for teaching contrast reaction management compared to hands-on high-fidelity simulation based training. This may help to develop a more cost effective and widely available educational tool for contrast reaction management training.

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Journal Highlights

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

Cardiac MR Imaging of Nonischemic Cardiomyopathies: Imaging Protocols and Spectra of Appearances

Cardiac MR is a valuable noninvasive imaging technique for detecting and assessing the morphologic, functional and myocardial contrast-enhancement characteristics of nonischemic cardiomyopathy and has become the noninvasive imaging test of choice for measuring chamber size and function.

In a review article in the February issue of *Radiology (RSNA.org/Radiology)*, David H. O'Donnell, M.D., of Beth Israel Deaconess Medical Center in Boston, and colleagues describe the cardiac MR protocols that allow optimum imaging and provide the spectrum of appearances of nonischemic cardiomyopathies. Specifically, the authors discuss:

- Basic cardiac MR protocols for cardiomyopathy assessment
- Classification of cardiomyopathy
- Primary cardiomyopathy
- Secondary cardiomyopathy
- Unknown cardiomyopathy: A practical approach

"The use of late-enhancement sequences has had an important effect on the ability to characterize the myocardium and also aids in improving clinical risk stratification," the authors write. "Finally, the lack of ionizing radiation makes cardiac MR imaging an important tool in screening and serial assessment of progressive myocardial diseases."

This article meets the criteria for 1.0 AMA PRA Category 1 Credit™. CME is available online only.



Idiopathic dilated cardiomyopathy in a 28-year-old woman with shortness of breath. Four-chamber steady-state free-precession MR image shows marked dilation of LV, which measures 68 mm. Note black jet (arrow) from mitral regurgitation, a common finding in dilated cardiomyopathy.

(*Radiology* 2012;262:2:403-422) ©RSNA, 2012. All rights reserved. Printed with permission.

Pulmonary Hypertension: When the Radiologist Can Help

Noninvasive imaging techniques such as cardiac MR imaging and electrocardiography (ECG)-gated multidetector CT pulmonary angiography (CTPA) are promising tools that may further the understanding of anatomic and functional changes that occur in patients with pulmonary hypertension and help define the course of the disease and the prognosis of those affected by it.

In an article in the January-February issue of *RadioGraphics (RSNA.org/RadioGraphics)*, Elena Peña, M.D., of the Ottawa Hospital, Ontario, Canada, and colleagues discuss the role of radiologists in diagnosing pulmonary hypertension on the basis of the Dana Point classification system—updated at the fourth World Symposium on Pulmonary Hypertension in Dana Point, Calif., in 2008—and the emerging role of cardiac MR imaging evaluation and follow-up of patients with pulmonary hypertension.

Specifically, the authors:

- Review the definition, classification, and pathophysiologic characteristics of pulmonary hypertension
- Suggest an imaging algorithm to be used for the work-up and follow-up of patients with this disease

Radiologists should be aware of the new classification system for pulmonary hypertension, know the advantages and disadvantages of the different imaging modalities used to diagnose the condition and have a systematic approach to evaluating patients with pulmonary hypertension, according to the authors.

"It is essential that radiologists be familiar with the various conditions that may lead to pulmonary hypertension and their imaging appearance at CTPA and cardiac MR imaging, particularly chronic thromboembolic pulmonary hypertension and longstanding left-to-right shunts because they may be surgically treatable," the authors write.

This article meets the criteria for 1.0 AMA PRA Category 1 Credit™. CME is available in print and online.



Delayed contrast enhancement in a 48-year-old woman with chronic thromboembolic pulmonary hypertension. Short-axis oblique gadolinium contrast material-enhanced phase-sensitive inversion-recovery MR image, obtained 10 minutes after administration of contrast material, shows a typical enhancement pattern at the insertion of the right ventricle into the interventricular septum (arrows).

(*RadioGraphics* 2012;32:9-32) ©RSNA, 2012. All rights reserved. Printed with permission.

Radiology in Public Focus

Media Coverage of RSNA

In November 2011, media outlets carried 1,184 RSNA-related news stories. These stories reached an estimated 625 million people.

November coverage included *Orlando Sentinel*, *Hartford Courant*, *Crain's Chicago Business*, *Baltimore Sun*, *Daily Press* (Norfolk, Va.), *Suffolk County News*, *Islip Bulletin* (New York), Yahoo! News, *CNN.com*, Yahoo! Finance, *Reuters.com*, *Chicago Tribune* – online, *Boston Globe* – online, *Houston Chronicle* – online, *UPI.com*, CBS News Radio – online, *Los Angeles Daily News* – online and *Auntminnie.com*.



FEBRUARY PUBLIC INFORMATION ACTIVITIES FOCUS ON HEART HEALTH

In February, RSNA is distributing the "60-Second Checkup" audio program to nearly 100 radio stations across the U.S. The segments focus on the detection of heart disease in African American patients using CT angiography.

Annual Meeting Watch

RSNA 2012 Online Abstract Submission Now Open

The online system to submit abstracts for RSNA 2012 is now active. The submission deadline is 12 p.m. Central Time on March 31, 2012. Abstracts are required for scientific presentations, education exhibits, applied science and quality storyboards.

To submit an abstract online, go to RSNA.org/abstracts.

The easy-to-use online system helps the Scientific Program Committee and Education Exhibits Committee evaluate submissions more efficiently. For more information about the abstract submission process, contact the RSNA Program Services Department at 1-877-776-2227 within the U.S. or 1-630-590-7774 outside the U.S.



RSNA 2011 Attendance Stays Strong, Breaks Records

Despite a slow economy, attendance for RSNA 2011 remained very strong, even setting new records in some categories.

RSNA 2011 member attendance was 11,970—more than a 4 percent increase from the previous year—while radiologist attendance broke a record at 16,272. Overall attendance was 59,097, almost 2 percent higher than in 2010.

Other key record breakers include non-exhibitor attendees at 36,671, international professionals at 9,642, RSNA member residents at 3,624 (more than 13 percent higher than in 2010), and medical physicists at 1,328 (almost 17 percent higher than in 2010).

Thousands flocked to RSNA's first Virtual Meeting for onsite attendees and remote registrants. More than 3,400 registrants visited the online RSNA Services area and Technical Exhibits throughout the week. On Tuesday, more than 1,100 visitors attended real-time plenary sessions, refresher courses and scientific sessions, and nearly 1,700 attended four real-time Essentials Courses. More than 3,700 answers were submitted to the virtual Cases of the Day exhibit.

Important Dates for RSNA 2012

- May 9:** Member registration and housing open
- June 6:** Non-Member registration and housing open
- June 13:** Exhibitor housing and registration open
- July 11:** Course enrollment opens
- October 19:** International deadline to have full-conference badge mailed
- November 2:** Final housing and discounted registration deadline
- November 21:** Deadline to guarantee a seat for all ticketed courses
- Nov. 25 – Nov. 30:** RSNA 98th Scientific Assembly & Annual Meeting

RSNA® 2012

NOVEMBER 25 – 30 MCCORMICK PLACE, CHICAGO

Education and Funding Opportunities



RSNA Introduction to Research for International Young Academics

The RSNA Committee on International Relations and Education (CIRE) seeks nominations for this program that encourages young radiologists from countries outside North America to pursue careers in academic radiology by:

- Introducing residents and fellows to research early in their training
- Demonstrating the importance of research to the practice and future of radiology
- Sharing the excitement and satisfaction of research careers in radiology
- Introducing residents to successful radiology researchers, future colleagues and potential mentors

The program consists of a special four-day seminar held during the RSNA Scientific Assembly and Annual Meeting. CIRE recommends 15 international young academics for consideration by the RSNA Board of Directors each year. Complimentary registration, shared hotel accommodation for the duration of the program and a stipend to help defray travel expenses are awarded to successful candidates.

Eligible candidates are residents and fellows currently in radiology training programs or radiologists not more than two years out of training who are beginning or considering an academic career. Nominations must be made by the candidate's department chairperson or training director. Fluency in English is required.

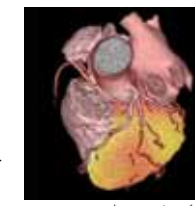
Nomination forms are available at RSNA.org/IRIYA.

SNM 3rd Multimodality Cardiovascular Molecular Imaging Symposium

April 19-21
National Institutes of Health, Bethesda, Md.

RSNA is a co-sponsor of this meeting designed to stimulate growth in the field by attracting individuals from the basic science and clinical communities, with a special emphasis on participation by junior scientists.

The program will focus on advances in targeted imaging of the cardiovascular system including imaging of cardiovascular receptors, stem cell therapy, vascular biology, myocardial metabolism and other relevant biological processes.



The meeting, which includes a series of lectures by experts in the field, panel discussions and a poster session, will facilitate interaction among speakers and attendees.

For more information go to www.snm.org.

Medical Meetings

February-April 2012

FEBRUARY 4-9

International Society for Optics and Phototonics (SPIE), Medical Imaging 2012, Town & Country Resort and Convention Center, San Diego

• www.spie.org

FEBRUARY 16-18

American Society of Spine Radiology (ASSR), Annual Symposium, Eden Roc Renaissance Hotel, Miami Beach, Fla.

• www.theassr.org

FEBRUARY 20-24

Healthcare Information and Management Systems Society (HIMSS), Annual Conference and Exhibition, Venetian-Palazzo Sands Expo Center, Las Vegas

• www.himssconference.org

MARCH 1-5

The European Society of Radiology (ESR), European Congress of Radiology (ECR), the European Austria Center, Vienna, Austria

• www.ecr.org

MARCH 19-22

Association of University Radiologists (AUR) 60th Annual Meeting, in joint sponsorship with RSNA, JW Marriott San Antonio Hill Country, San Antonio, Texas

• www.aur.org

MARCH 24-29

Society of Interventional Radiology (SIR), 36th Annual Scientific Meeting, Moscone Center, San Francisco, Calif.

• www.sirweb.org

MARCH 29-APRIL 1

American Institute of Ultrasound in Medicine (AIUM), Annual Meeting, JW Marriott Desert Ridge Resort and Spa, Phoenix

• www.aium.org

APRIL 12-15

Japan Radiological Society (JRS), 71st Annual Meeting, Pacifico Yokohama, Japan

• www.congre.co.jp/en/index.html

APRIL 26-29

Canadian Association of Radiologists (CAR), 75th Annual Scientific Meeting, Le Centre Sheraton, Montreal, Quebec

• www.car.ca/en.aspx

Education and Funding Opportunities

Online Ethics and Professionalism Modules are Now Available

Online ethics and professionalism modules designed to educate physicians and physicists on the attributes and nuances of ethics and professionalism essential to diagnostic radiology, radiation oncology and medical physics, are now available on *RSNA.org*.

The modules were developed by the American Board of Radiology Foundation (ABRF) with educational grants from RSNA, the American Association of Physicists in Medicine, American Board of Radiology (ABR), American College of Radiology, American Radium Society, American Society for Radiation Oncology and Academy of Radiology Research.

Each module was developed by an expert team of individuals and peer reviewed for content, quality and clarity. Modules are self-guided and include self-testing features for comprehension and application of the principles and practices described in the module.

Modules have been approved for *AMA PRA Category 1 Credit™* and have been qualified by the ABR for Self Assessment Module (SAM) credit in fulfillment of Maintenance of Certification (MOC) requirements. Access the modules at RSNA.org/Education/MOC/professionalism.cfm.



CD-ROM Collections Available in RSNA Education Center Online Catalog

Available for the first time at RSNA 2011, the new CD-ROM collection of refresher courses from previous RSNA meetings is now available in the RSNA Education Center's 2011-2012 online product catalog. Each collection contains a bundled set of refresher courses containing related educational content:

- **Emergency Collection:** A review of some of the most common—and confounding—traumatic conditions radiologists encounter, including abdominal and head and neck injuries and the injured child; includes three CDs offering 4.50 *AMA PRA Category 1 Credits™*.
- **Pulmonary Collection:** A comprehensive study of CT imaging of the lungs, from the features of chronic obstructive conditions to evaluation of the patient at risk of pulmonary embolism; includes three CDs offering 4.25 *AMA PRA Category 1 Credits™*.
- **Oncologic Imaging Collection:** A systematic review of radiation oncology for the diagnostic radiologist, from terminology to treatment to follow-up imaging; includes three CDs offering 4.00 *AMA PRA Category 1 Credits™*.
- **Renal Collection:** A look at renal imaging studies, from assessment of vasculature to the discovery of incidental masses; includes two CDs offering 2.25 *AMA PRA Category 1 Credits™*.

For more information or to purchase the CD collections, go to RSNA.org/education/search/collections or call the Education Center at 1-800-272-2920.

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Continued from Page 17

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For Your Benefit

RSNA Offers Affordable Membership as Residents Transition into Practice

Residents and fellows transitioning into practice will likely find one incentive for maintaining their RSNA membership hard to pass up: reduced rates.

While members-in-training receive free RSNA membership, members transitioning from training qualify for greatly reduced rates during their first and second years of practice—just \$100 in year one and \$200 in year two. It is not until the third year of practice that transitioning members pay standard membership dues.

The RSNA benefit gives residents time to settle into the profession before paying full membership dues.

Under the program, residents receive all the benefits of full membership, including subscriptions to *Radiology*, *RadioGraphics* and *RSNA News*, free admission (with advance registration) to the annual meeting and free access to online CME opportunities.

For more information about reduced rates, contact the Membership Department at 1-877-RSNA-MEM (1-877-776-2636) or membership@rsna.org.

The Value of Membership



Residents and Fellows Corner

Roentgen Award Nominations Being Accepted

Nominations are being accepted now for the RSNA Roentgen Research Award, recognizing residents and fellows who have contributed significantly to advancing their departments through research as evidenced by presentations and publications of scientific papers, receipt of research grants or other contributions. Only one resident or fellow per program can be nominated by the program director or department chair.

The RSNA Research & Education (R&E) Foundation provides an award plaque for the department to display and a personalized award to present to the selected resident or fellow. The nomination deadline is April 1. Learn about the nomination process and see a list of past recipients at RSNA.org/Foundation/Roentgen.cfm.

Jagan Dewan Gupta, M.D., received his 2011 **RSNA Roentgen Research Award** from program director **Cynthia Hanemann, M.D.**



RSNA.org

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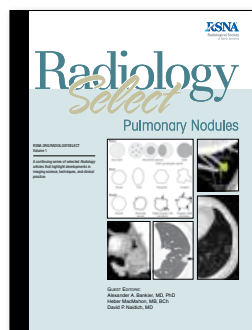
Radiology Select—introduced in January—is a continuing series of 20-35 *Radiology* articles chosen by a guest editor. The articles are selected for their importance in radiologic science.

A new volume will be published every six months and each volume focuses on a specific subspecialty topic. The first collection covers the spectrum of pulmonary nodules: anatomic and morphologic features; detection, observer performance and CAD; new techniques for diagnosing nodules; guidelines and recommendations for lung nodule management; and lung cancer screening.

Radiology Select will feature new videos, podcasts, editor and article author commentaries and the opportunity for readers to earn self-assessment module (SAM) and CME credits.

The series is available to members at a reduced fee and is offered in three formats—online (SAMs edition), tablet edition and print-on-demand. As an added benefit, each set of three articles in the online edition features a set of SAMs questions.

For more information on *Radiology Select*, go to www.rsna.org/radiologyselect.



RSNA - THE ALL NEW RSNA.org COMING EARLY 2012

Radiology

Radiology Select—the essential collections for radiologic science.

Enrich your personal library with a new series from the most comprehensive journal in the field.

Enrich January 2012 with the Pulmonary Nodule collection.

The new *Radiology Select* series features three leading the spectrum of lung nodule imaging, diagnosis and management. Beyond observer performance and CAD, new techniques for diagnosing nodules, guidelines and recommendations for lung nodule management and lung cancer screening.

Each set of three articles in the *Crunch Points* series is a self-assessment module (SAM) question.

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Tablet: Get *Radiology Select* on your iPad or Android device. Browse and compare images side-by-side with the figure browser, article tables and more. Choose the edition that works best for you.

Print-on-Demand: Order professionally printed copies of *Radiology Select* articles and watch up your reading, evidence, answers. It's a perfect option for the busy radiologist.

Radiology Select

COMING NEXT MONTH

Experts at RSNA 2011 explored the challenges for radiology on smartphones, tablets and beyond—everything from issues of diagnostic quality and institutional security concerns to a novel patient-controlled “samurai” application. We report their findings in next month's *RSNA News*.

CALL FOR ABSTRACTS

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DEADLINE

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12:00 NOON CHICAGO TIME

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Questions? Call RSNA at: 1-877-776-2227 (within U.S.) or 1-630-590-7774 (outside U.S.)

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