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RSNA, AAPM Help Fill Urgent Need for Medical Physics Residency Programs

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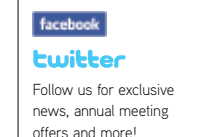
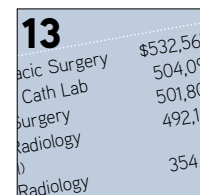
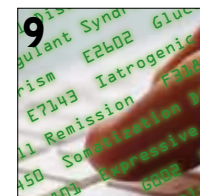
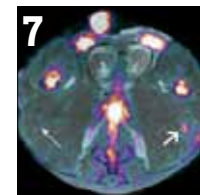
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Nuclear Medicine is Latest Focus of Image Gently Campaign

THE ALLIANCE for Radiation Safety in Pediatric Imaging has developed guidelines for radiopharmaceutical doses for pediatric patients as the latest initiative in its Image Gently campaign. Find the guidelines at www.imagegently.org.

The "Go with the Guidelines" initiative is co-sponsored with SNM. "A group of leaders within the pediatric nuclear medicine community developed the North American guidelines," said Marilyn J. Goske, M.D., chair of the alliance. "It is most important that these guidelines be used in community hospitals throughout the country at the point of care."

Formed in 2006, the alliance has focused on CT, interventional radiology and fluoroscopy in past initiatives and also sponsored a parent-focused campaign to promote medical literacy. Founding organizations are the Society for Pediatric Radiology, American Association of Physicists in Medicine, American College of Radiology and American Society of Radiologic Technologists; RSNA is among the 60 alliance organizations.



WORLD MOLECULAR IMAGING SOCIETY FORMED

The Society of Molecular Imaging and the Academy of Molecular Imaging recently merged to form the World Molecular Imaging Society. This merger was announced at the World Molecular Imaging Congress (WMIC) held in September in San Diego.

The newly formed society will continue to present the WMIC, of which RSNA is a cosponsor. The fifth WMIC is planned for Sept 5-8, 2012, in Dublin, Ireland. Learn more at www.wmis.org and www.wmicmeeting.org.



Vascular Disease Foundation Honors Katzen

The Vascular Disease Foundation presented its most prestigious honor, the Julius H. Jacobson II M.D. Award for Physician Excellence, to **Barry T. Katzen, M.D.**, medical director of Baptist Cardiac & Vascular Institute in Miami and professor of radiology at the University of Miami, at its recent annual meeting in Washington. Dr. Katzen, a leader in the development of interventional radiology and multidisciplinary models for delivering cardiovascular care, was recognized for outstanding contributions to physician education, leadership and patient care in vascular diseases. Dr. Katzen is an active member of the RSNA Research & Education (R&E) Foundation and a member of the RSNA Public Information Advisors Network.



Numbers in the News

2.95

Percent increase in the median salary of interventional radiologists from 2009 to 2010, according to American Medical Group Association (AMGA) 24th Annual Medical Group Compensation and Financial Survey. Diagnostic radiologists saw a 1.55 percent increase. [Read more on Page 13.](#)

30

Number of new diagnostic imaging medical physicists needed annually to meet current demands as well as those beyond 2014, according to a recent manpower assessment by the American Association of Physicists in Medicine (AAPM). [Turn to Page 5 to learn how this demand is spotlighting the need for more medical physics residencies.](#)

69

Percentage of healthcare facilities responding to a recent survey which reported having not initiated any education efforts relating to ICD-10 implementation. [Learn more about the mandated conversion to the updated disease classification system on Page 9.](#)

85

Percent of RSNA members who collect teaching files and would prefer an easier method to host them, according to a recent survey. [Updates to the RSNA's Teaching File System, a project of RSNA's Medical Imaging Resource Center \(MIRC\), are designed to help; find out more on Page 11.](#)

Markowitz Named CMO of Hartford Hospital
Stuart Markowitz, M.D., has been appointed chief medical officer (CMO) for Hartford Hospital in Connecticut effective January 1.

Dr. Markowitz has been a leader at Hartford Hospital for decades, serving as vice-president of the medical staff for two years and as chair and medical director of the Department of Radiology since 1995. He also spent nearly 30 years in private practice.



RSNA RECOGNIZED FOR ANNUAL REPORT DESIGN

RSNA recently received an American Graphic Design Award from Graphic Design USA for the 2010 RSNA Annual Report. For nearly 50 years, Graphic Design USA has presented national design competitions that spotlight areas of excellence and opportunity for creative professionals. The 2011 American Graphic Design Awards attracted more than 8,000 entries. RSNA was among about 15 percent to be recognized with a Certificate of Excellence.



INTERNATIONAL VISITING PROFESSOR TEAMS NAMED

The RSNA Board of Directors has announced the teams of International Visiting Professors (IVP) for 2012. The professors and their destinations are:

NEPAL

Young H. Kim, M.D.
University of Massachusetts Memorial Medical Center
Kambiz Motamedi, M.D.
University of California, Los Angeles, David Geffen School of Medicine
Anne C. Roberts, M.D.
University of California, San Diego, Thornton Hospital

VIETNAM

Eric Stern, M.D.
University of Washington Medical Center
Huong T. Le Petross, M.D.
MD Anderson Cancer Center

EL SALVADOR

Theodore J. Dubinsky, M.D.
University of Washington School of Medicine
Ali Guerhazi, M.D.
Boston University Medical Center
Carlos H. Torres, M.D.
University of Ottawa, The Ottawa Hospital

MEXICO

(In cooperation with the Sociedad Mexicana de Radiología e Imagen A.C.)
George A. Taylor, M.D.
Children's Hospital, Boston
Jorge A. Soto, M.D.
Boston University Medical Center

The RSNA Committee on International Relations and Education administers the IVP program, which is made possible by support from Agfa HealthCare and Fujifilm Medical Systems. For more information, go to RSNA.org/International/CIRE/ivpp.cfm. An article about the IVP team that traveled to Myanmar in 2011 will appear in the March 2012 issue of *RSNA News*.

IN MEMORIAM

Two Stanford Luminaries

RSNA and the entire communities of radiology and radiation oncology join Stanford University in mourning the loss of two renowned physicians: **Malcolm A. Bagshaw, M.D.**, who received the RSNA Gold Medal in 1999 and **Gary Glazer, M.D.**, who was awarded the honor in 2009.

Dr. Bagshaw, one of the world's foremost experts in radiation therapy, died September 18 at the age of 86.

Dr. Bagshaw was known for his collaboration with fellow Stanford physician Henry Kaplan, M.D., to pioneer the use of high-energy radiation as produced by a medical linear accelerator in the treatment of head and neck cancer, pediatric tumors including retinoblastoma, gynecological cancer and prostate cancer. Dr. Bagshaw was awarded the 1996 Charles F. Kettering Prize from the General Motors Cancer Research Foundation for his development of high-dose, small-field radiation allowing patients with prostate cancer to undergo radiation treatment without the need for surgery. Techniques developed by Dr. Bagshaw are now standard of care.

Dr. Bagshaw joined the Stanford University School of Medicine in 1956 and was appointed head of the Division of Radiation Therapy in 1960 and chair of the Department of Radiology in 1972. When the department reorganized into separate radiology and radiation oncology departments, Dr. Bagshaw continued as chair of the latter. He retired from the position of chair in 1992 and assumed the Henry S. Kaplan-Harry Lebeson Professorship in Cancer Biology.

Dr. Glazer, who was recruited in 1989 to be the first chair of the newly created Department of

Radiology at Stanford, died October 16 at the age of 61. He held that position until August of this year, remaining the Emma Pfeiffer Merner Professor in the Medical Sciences.

Dr. Glazer's research placed him at the hub of some of the most significant breakthroughs in CT and MR imaging in the 1980s. He helped to define normal and pathological anatomy of the pulmonary hilum and mediastinal lymph nodes on cross-sectional images, with similarly pioneering work in CT and MR classification of adrenal and liver tumors. In recent research, Dr. Glazer had discovered that image-guided tumor insonification can amplify tumor biomarker signals in the blood and identify biomarker release sites.

Dr. Glazer oversaw tremendous growth in medical imaging research at Stanford—the department is now home to four National Institutes of Health-funded centers. Dr. Glazer also worked to make radiology more patient-centered and promote the "visible radiologist," directing development of an architecturally and programmatically patient-centered imaging facility.



Glazer



Bagshaw

My Turn

How Will You Leave Your Legacy?

As our field advances, this question becomes increasingly important. One answer is through mentorship. From a resident's perspective, mentorship begins on day one of residency. Reading out with attendings for nearly eight hours per day fosters a mentoring relationship. The structure of radiology residency naturally facilitates these types of interactions. Nevertheless, with the growing number of priorities in our field, including workflow efficiency, patient safety and innovative research, the importance of the mentoring relationship may be underestimated. Multiple articles have been published about the role of mentorship in a radiologist's career. It has been shown to increase productivity, enhance teaching skills,

and encourage residents to pursue leadership positions in academic medicine. The same benefits have been demonstrated when there is a successful mentoring relationship between junior and senior faculty members.

Establishing connections between radiologists at different career levels promotes not only academic achievement but also the development of strategies for optimizing career satisfaction and work-life balance. Communication of career advice can occur through many avenues, but it seems unwise to leave such important dialogue to chance. Formal mentorship programs may be the key to our field's future success.



Nazia Jafri, M.D., is a 4th-year radiology resident and chief resident at the University of California, San Francisco, and a member of the *RSNA News* Editorial Board.

Thrall Named IOM Member

The Institute of Medicine (IOM) inducted **James H. Thrall, M.D.**, the Juan M. Taveras Professor of Radiology, Harvard Medical School, and radiologist in chief, Massachusetts General Hospital, Boston, as one of 65 new members in conjunction with its recent annual meeting. IOM also inducted five foreign associates.

Election to the IOM is considered one of the highest honors in the fields of health and medicine and recognizes individuals who have demonstrated outstanding professional achievement and commitment to service.

President of the American College of Radiology, Dr. Thrall received the RSNA Gold Medal in 2007. He serves on the *Radiology* Editorial Board.



Thrall

Chang Appointed Chair of USC Department of Radiation Oncology

ERIC L. CHANG, M.D., has been appointed professor and chair at the Keck School of Medicine, Department of Radiation Oncology, at the University of Southern California (USC).

An internationally recognized authority in radiotherapeutic evaluation and the management of patients, Dr. Chang will also be chief of radiation oncology at the USC Norris Cancer Hospital,

USC University Hospital and Los Angeles County + USC Medical Center.

Dr. Chang comes from the University of Texas MD Anderson Cancer Center, Houston, where he has been professor of radiation oncology and director of the Central Nervous System Stereotactic Radiation Program.



Chang

RSNA Board of Directors Report

At its September meeting, the RSNA Board of Directors approved collaborations with other radiologic and medical societies, established a new scientific excellence award and appointed volunteers to RSNA committees for the coming year.

Collaborations Promote Cardiovascular Imaging, Support Medical Students

RSNA joins the SNM Center for Molecular Imaging Innovation and Translation in sponsoring the 3rd Cardiovascular Molecular Imaging Symposium, April 19–21, 2012, at the National Institutes of Health, Bethesda, Md. Learn more at www.molecularimagingcenter.org.

As part of a new collaboration with the American Physician Scientists Association (APSA), the Board committed to adding two slots for medical students in the 2012 Introduction to Academic Radiology program sponsored by RSNA, the Association of University Radiologists and the American Roentgen Ray Society. RSNA will also provide a keynote speaker for the APSA annual meeting. More about APSA is available at www.physicianscientists.org.

Looking forward to RSNA 2012, the Society will collaborate with Brazilian radiologists to showcase the latest in radiologic research from that country in the next installment of the "Presents" series.

Position Statements Help Members Address Newsworthy Topics

The Board approved RSNA position statements on lung cancer and colon cancer screening, radiation from a nuclear accident and Transportation Security Administration (TSA) airport scanners. The statements are designed to aid RSNA members when they need to respond to the media or the public about radiology-related top-



Sarah S. Donaldson, M.D.
Chairman, 2011 RSNA Board of Directors

ics that frequently receive prominent coverage in the news. Access the statements on myRSNA® by clicking Member Benefits under MyDashboard and scrolling to Position Statements.

New Programs Support Scientific Excellence, MOC

The Board established the Alexander R. Margulis Award for Scientific Excellence, to be given for the best original scientific article published in *Radiology*. The award will be announced at the RSNA annual meeting each year starting in 2012.

The Board approved a 1½-day workshop in spring 2012 to expand the library of qualified practice quality improvement (PQI) projects made available to members through the RSNA website. PQI is a component of Maintenance of Certification (MOC).

Committee Members, R&E Trustees Appointed

The Board approved appointments to RSNA's many committees in consultation with the committee chairs. The Board thanks the hundreds of dedicated volunteers who help RSNA to meet its mission.

Of particular note is the expansion of the Committee on International Relations & Education (CIRE) and the Technical Exhibits Committee to include members-in-training, part of RSNA's commitment to engaging the next generation of our specialty. Daniel I. Glazer, M.D., of Ann Arbor, Mich., is the first member-in-training representative on the Technical Exhibit

Committee, and Rebecca E. Gerber, M.D., of Charlottesville, Va., is the first on the CIRE.

The Board appointed James P. Borgstede, M.D., as chair-elect of the 2012 Research & Education (R&E) Foundation Board of Trustees. Hedvig Hricak, M.D., Ph.D., Dr. h.c., and E. Russell Ritenour, Ph.D., were reappointed as treasurer and secretary, respectively. 2011 RSNA President Burton P. Drayer, M.D., G. Scott Gazelle, M.D., Ph.D., and Vijay M. Rao, M.D., were reappointed as trustees.

I'm excited, as I know you are as well, about what's in store for RSNA and radiology in the coming year.

SARAH S. DONALDSON, M.D.
CHAIRMAN, 2011 RSNA BOARD OF DIRECTORS



Looking ahead to RSNA 2012, the Society will collaborate with Brazilian radiologists in the next installment of the "Presents" series.

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RSNA, AAPM Help Fill Urgent Need for Medical Physics Residency Programs

As the date when medical physicists must comply with new board certification requirements quickly approaches, RSNA and the American Association of Physicists in Medicine (AAPM) are offering incentives to establish much-needed accredited residency training programs in diagnostic imaging medical physics.

BEGINNING in 2014, the American Board of Radiology (ABR) will require medical physicists to complete an accredited two-year residency program in order to take board exams and achieve the Qualified Medical Physicist (QMP) designation.

While there are a number of programs producing graduates with training in diagnostic imaging physics, only six diagnostic imaging medical physics residency programs exist in North

America, producing approximately seven graduates per year. (By contrast, 47 residency programs exist in therapeutic medical physics.) According to a recent AAPM manpower assessment, at least 30 new diagnostic imaging medical physicists will be needed annually to meet current demands as well as those beyond 2014.

“An additional five to seven more residency training programs is closer to where we need to be,” said Michael G. Herman, Ph.D., chairman of the AAPM board and a professor and chair of medical physics in the Department of Radiation Oncology at the Mayo Clinic, Rochester, Minn. “By 2014, ideally we’d like to have a total of 20 diagnostic imaging medical physics residency programs producing 20 to 30 graduates a year.”

Societies Contribute Resources, Grants

To assist academic radiology programs, large private practice groups and other organizations interested in establishing an accredited residency program, AAPM and RSNA are offering informational resources and financial assistance.

“Establishing a residency program in diagnostic medical physics is absolutely something an academic center or even a large private radiology practice can do,” Dr. Herman said.

In 2011, AAPM and RSNA contributed a combined \$100,500 toward residents’ salaries at new programs created at MD Anderson Cancer Center in Houston, Duke University in Durham, N.C., and Upstate Medical Physics (UMP) in Victor, New York.

“We see the availability of qualified medical physicists as absolutely essential to the growth of radiology,” said Sarah S. Donaldson, M.D., the Catharine and Howard Avery Professor of Radiation Oncology at Stanford University School of Medicine and Chairman of the RSNA Board of Directors. “Because radiologists and medical physicists work hand-in-hand, this is a sound investment in the future of our field.”



Herman



Donaldson



Seibert

Residents & Fellows Corner

Program Model Fits Any Size Institution

To aid those establishing accredited programs, AAPM has posted an online sample application—or self-study—by UMP, one of the largest imaging physics consulting groups in the country, and invites others to review the program. (See sidebar)

“Our materials are all available and can be modified to fit different institutions,” said UMP founder Robert Pizzutiello. “Smaller firms don’t have to go it alone; they can work together or develop relationships with existing programs or serve as a satellite.”

With the help of a consultant, UMP completed its self-study in approximately 150 hours over a three-month period. The Commission on Accreditation of Medical Physics Educational Programs, the accrediting body for medical physics programs, conducted a site visit nine months later and bestowed accreditation about four weeks after that.

“By 2014, ideally we’d like to have a total of 20 diagnostic imaging medical physics residency programs producing 20 to 30 graduates a year.”

Michael G. Herman, Ph.D.



RSNA and AAPM are offering incentives to establish much-needed accredited diagnostic imaging medical physics residency training programs like the one under way at the University of Texas MD Anderson Cancer Center. Above: Program Director Charles Willis, Ph.D., (center) and senior medical physicist Donna Stevens, M.S., (right), instruct then-resident Cheenu Kappadath, Ph.D., (left) in the MD M.S., Anderson Imaging Physics Residency Program.

“We essentially formalized our on-the-job training program,” Pizzutiello said. “The major change was in documenting our training. Residents now come out of the program with a portfolio of surveys on various imaging technologies that show without a doubt they’ve been properly trained.”

AAPM Launched Medical Physics Initiative in 2000

Expanding the pool of accredited residency training programs is part of a broad AAPM-led effort to make the training and certification of medical physicists more robust. The initiative has been supported by RSNA and ABR.

“To make sure medical physicists have the appropriate training, AAPM began promulgating the concept of the Qualified Medical Physicist in 2000,” said J. Anthony Seibert, Ph.D., AAPM president and a professor of radiology at the University of California, Davis. “A QMP designation assures hiring institutions that a physicist is qualified for the job.”

QMP is achieved by obtaining a master’s or doctorate degree in medical physics or related discipline, completing an accredited residency and achieving ABR board certification. Continuing medical education is required with a QMP designation.

The increasing complexity of diagnostic imaging and growing emphasis on quality care are the major drivers behind the changes in the medical physics field, Dr. Seibert said.

“We need to know our imaging systems are properly calibrated, operated and maintained by qualified professionals,” Dr. Seibert said. “Ultimately these changes will benefit medicine in general and the radiologist and medical physicist in particular.”

As radiologists strive to produce the highest quality images at the lowest radiation dose, the role of medical physicists has become increasingly important, experts agree.

“Radiologists know that when the technical aspects of imaging equipment are taken care of, they are best able to offer safe, quality care,” Pizzutiello said.

With the help of RSNA and AAPM, UMP’s newly accredited program is now in full swing: Three residents are currently in training and their first graduate joined the firm in 2011.

“We knew he was properly trained ... and he was already part of the family,” Pizzutiello said. □

WEB EXTRAS

☑ To access the Upstate Medical Physics Self-Study for the Commission on Accreditation of Medical Physics Educational Programs, go to www.campep.org/documents/UMPSelf-StudyforCAMPEPfinal622010_000.pdf.

☑ Additional resources for establishing a Commission on Accreditation of Medical Physics Educational Programs (CAMPEP) accredited program are available at www.aapm.org/meetings/ResTrainingWkshpFall09.asp.

MR Imaging Leads to Better Understanding of Pain

MR imaging of the brain is leading researchers to significant advancements in understanding chronic pain, including the theory that pain—like diabetes and heart disease—is a disease unto itself and not merely a symptom of illness.

OTHER MR imaging research is shedding new light on the brain's connection to easing pain, including one study showing the power of romantic love in reducing thermal pain.

Such studies are paving the way for more effective, personalized treatment for the chronic pain suffered by an estimated 116 million Americans every year. In June 2011, the Institute of Medicine reported that pain costs between \$560 billion and \$635 billion in medical expenses and lost productivity annually and that much pain can be prevented or better managed.

Once regarded as a manifestation of an underlying disease or illness, chronic pain is understood differently today, according to Sean C. Mackey, M.D., Ph.D., chief of the Division of Pain Management at Stanford University School of Medicine in Palo Alto, Calif. In a study published in the March 2011 issue of the journal *Pain*, Dr. Mackey and colleagues showed that pain could actually alter the structure of the brain. Researchers performed high-resolution structural brain and brainstem MR imaging on 15 women with chronic pain of the temporomandibular region. Comparing those MR imaging results with results from 15 age- and gender-matched healthy controls, researchers detected changes in gray matter volume in the chronic pain group.

"This and other research supports the theory that pain is a disease in and of itself," Dr. Mackey said. "Pain alters the central nervous system and a state of pain is perpetuated even after the injury is healed."

Hybrid Imaging Could Aid Pain Treatment

Experts anticipate enhanced understanding of pain to open the door for improved treatment. While current options, like opioids and non-steroidal anti-inflammatory drugs are often effective, they can produce significant side effects, Dr. Mackey said.

One experimental protocol using MR imaging/PET to pinpoint areas of damage in peripheral nerves or nerves outside the brain and spinal column could play a role in pain treatment, according to Sandip Biswal, M.D., a radiologist and assistant professor of radiology at Stanford.

In a study published in the August 2011 issue of the *Journal of Nuclear Medicine*, lead author Deepak Behera, Ph.D., and colleagues obtained promising results using a hybrid imaging approach that



Biswal

Mackey

fuses PET and MR images obtained from scanners adapted for small animals to localize radiotracer uptake in the injured peripheral nerves of rats.

"We are in the process of translating these findings into a clinical study in a select group of pain sufferers to see if we can visualize increased metabolic uptake in certain neural structures in the setting of pain," said Dr. Biswal, senior author of the *JNM* study. "If we can find these 'hot spots,' perhaps we can better direct locally administered analgesic or anti-inflammatory injections for treating pain, rather than depending upon systemic analgesics like opioids and chronic NSAIDs, which can have untoward side effects. Or we can at least use the image to help objectify and quantify pain-related neural activity and help guide systemically or locally administered therapy."

Research Connects Love to Pain Relief

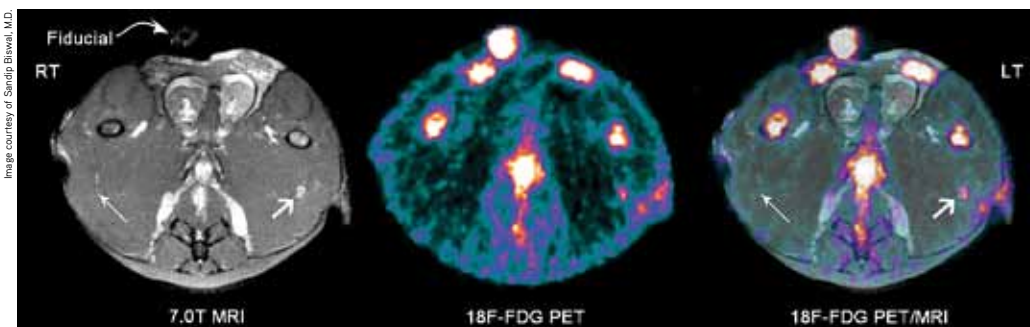
The activation of neural reward systems is another possible avenue for reducing pain. A study led by Dr. Mackey and colleagues published in the October 2010 issue of the journal *PLoS ONE* found

“I see no slowing down to the exponential growth in our understanding of pain.”

Sean C. Mackey, M.D., Ph.D.



Once regarded as a manifestation of an underlying disease or illness, chronic pain is understood differently by researchers who are making significant advancements using MR imaging of the brain.



Sandip Biswal, M.D., and colleagues obtained promising results in treating pain using an MR imaging/PET scanner adapted for small animals to localize radiotracer uptake in the injured peripheral nerves of rats. (Above left) A T1-weighted transaxial 7.0T MR image through the nerve injury of the thigh of a neuropathic pain model— injured left sciatic nerve (large arrow) and normal right sciatic nerve (thin arrow); (center) a fluorine-18 fluorodeoxyglucose (18F-FDG) PET image through the same part of the animal; (right) a fused 18F-FDG PET/MR image showing increased 18F-FDG uptake in the nerve injury.

that the power of romantic love activated reward-processing centers in the brain and reduced thermal pain. Researchers performed functional MR imaging on 15 people who were in the first nine months of a new romantic relationship. Participants viewed pictures of their romantic partner and pictures of an equally attractive and familiar acquaintance and performed a word association distraction task under periods of moderate and high thermal pain. The partner and distraction tasks both significantly reduced self-reported pain, though only the partner task was associated with increased activity in several reward-processing regions.

"The brain rewards system is rich in dopamine, so engagement of reward can have a profound effect on pain relief," Dr. Mackey said.

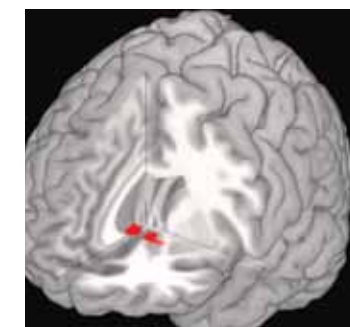
Technology Drives Pain-reduction Therapy

Researchers ultimately hope to use technology to develop therapies that are safe and effective in

reducing chronic pain, Dr. Mackey said. "These techniques will help us characterize differences in pain perception and response to treatment among patients and move toward personalized pain medication," he said. Improvements in MR imaging technology will continue to help drive these discoveries, he added.

"Technology has improved across the board in terms of better scanners, improved signal-to-noise ratio and pulse sequences, as well as the ability to increase resolution," Dr. Mackey said. "We can tease out more and more information from the brain including information on structure and chemistry.

"I see no slowing down to the exponential growth in our understanding of pain," Dr. Mackey continued. "With these tools, we can open up windows into the human brain and see things that were hidden before." □



Recent research by Sean C. Mackey, M.D., Ph.D., shows that love-induced pain relief was associated with the activation of primitive brain structures that control rewarding experiences, such as the nucleus accumbens shown here in red.

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For more information on the research cited in this article and to view a video of Sean C. Mackey, M.D., Ph.D. discussing pain research, go to rsnanews.RSNA.org.

Prepare for ICD-10 Conversion Now, Experts Say

While the deadline to convert to the International Classification of Disease, 10th Revision, Clinical Modification (ICD-10-CM) is still about two years away, experts say that many healthcare groups and most radiology groups are far from prepared for the Oct. 1, 2013, deadline.

“RADIOLOGY GROUPS are not even close to being prepared, particularly small and medium-sized providers,” said Dennis Flint, director of consulting and educational services for Complete Medical Solutions, a Louisiana-based software company that specializes in practice management software, hardware, consulting and education services.

Technology Forum

ICD-10 is a diagnostic coding system implemented by the World Health Organization (WHO) in 1993 to replace ICD-9, developed by WHO in the 1970s. The U.S. is one of the few countries that have not adopted ICD-10. The looming conversion is mandated by Congress under the auspices of the U.S. Department of Health and Human Services and administered by the Centers for Medicare & Medicaid Services (CMS).

A September podcast by *ICD10monitor.com* (see sidebar), an online source covering ICD-10 news, noted that 69 percent of 589 participating healthcare facilities said they have not initiated any education efforts relating to ICD-10 implementation. Radiology is among the specialties not fully prepared for the transition, said Donna Richmond, B.A., a radiology certified coder (R.C.C.) and senior healthcare consultant for Medical Learning, Inc., in St. Paul, Minn. Richmond has more than 20 years of experience in radiology billing, coding and compliance. “I’m afraid that ICD-10 is not on radiologists’ radar at all,” she said. “It’s something they see as being way in the future, and they aren’t doing a whole lot to prepare because most radiology coding and billing is done by billing services and not by a practice’s employees.”

Radiology leaders agree the industry could be underestimating the size and scope of the project before them.

“Radiologists and their business personnel must recognize that this is a major undertaking and not a ‘tweak’ to ICD-9-CM,” said William T. Thorwarth Jr., M.D., a nationally recognized expert on radiology economics and reimbursement and RSNA Board Liaison for Publications and Communications. “To use an automotive analogy, this is a complete motor overhaul, not just an oil change.

“The Center for Medicaid and Medicare Services has made clear that they will not extend the implementation date, so all physicians—including radiologists—need to be sure they are prepared,” continued Dr. Thorwarth, an interventional radiologist with Catawba Radiological Associates, Hickory, N.C.



Thorwarth



Richmond



Flint

HIPAA Deadline Looms Even Larger

Along with concerns about the Oct. 1, 2013, deadline, a more immediate problem is meeting the Jan. 1, 2012, deadline for converting from the Health Insurance Portability and Accountability Act (HIPAA) version 4010 to 5010 transaction standards—a prerequisite for the 2013 conversion to ICD-10.

“Practices have to make sure all of their business partners, such as billing services and vendors, are ready for Jan. 1, 2012, and I think some of them are going to be unpleasantly surprised when that date comes and they find out that their vendors aren’t ready,” Richmond said.

“Radiologists and their business personnel must recognize that this is a major undertaking and not a ‘tweak’ to ICD-9-CM. To use an automotive analogy, this is a complete motor overhaul, not just an oil change.”

William T. Thorwarth Jr., M.D.

Experts say radiologists are not even close to being prepared for the conversion to the International Classification of Disease, 10th Revision, Clinical Modification (ICD-10-CM), diagnostic coding system which must be implemented by Oct. 1, 2013.

As for ICD-10, Richmond and Flint both noted that delays in preparing for October 2013 could severely impact radiology groups. “Radiology tends to use unspecified radiology codes a lot, and the whole idea of ICD-10 is for greater specificity,” Richmond explained.

“You’re going to find, especially in radiology, that diagnoses like chest pain just aren’t going to cut it anymore,” Flint added. “If you look at the top 20 radiology codes for ICD-9—such as chest pain, hypertension, diabetes, abdominal pain, shortness of breath—they’re very non-specific.”

In fact, the transition from ICD-9 to ICD-10 will expand the number of codes from 14,000 to 70,000—a substantial increase in the specificity and documentation needed for proper coding. “The onus will be not only on primary care providers to submit specific diagnoses to radiologists, but also radiologists in turn will have to pick the correct corresponding codes as well,” Flint said. “The impact will be pretty serious.”

The big worry, said Richmond, is that payers who change over to ICD-10 will not pay for diagnoses that are non-specific. “When I first started coding, in radiology we didn’t even use diagnosis codes, so getting out of that unspecified mindset is going to be a huge change for radiology,” she said. “With ICD-10, we are going to have to learn to embrace that specificity and either get on board or lose money.”

Laying the Groundwork for Transition

What is the best way to prepare for the ICD-10 conversion? If they haven’t already, Richmond said, radiology groups should be setting up transition committees that are “looking at everything ICD touches,” from the schedulers and registration desks, to patients, technologists, physicians and cod-

ers. From there it can be determined what kinds of changes need to be implemented.

Practices can also begin to examine how the ICD-10 transition could affect workflow.

“Give one or two coders 10 or 15 reports and have them code with ICD-9 and then re-code with ICD-10 and look at the time difference,” she advised. “That should give you the idea of the slowdown you’ll face in 2013 when you have to start using those codes.”

Such testing could also help practices determine whether they’ll need to add staff or outsource when the time comes—something they can plan for in advance. In addition, if practices face a significant slowdown once they transition to ICD-10, reimbursements may also slow, creating potential cash-flow issues.

“Practices may need to start setting up lines of credit so that they’ll be ready when that slowdown hits,” Richmond said.

Some of the most important training is for physicians, Flint said. “The overwhelming feeling among physicians is that ‘I’m a doctor and I know how to code.’ But the documentation elements are just so different.”

Flint also warned practices not to get caught in the trap of thinking that this is “just an IT issue” that vendors will handle. “You have to be all inclusive,” he said. “This is an issue that impacts the entire practice.” He pointed out that areas as varied as superbills, pre-authorization of procedures and services, and outside referrals are all going to require changes in order to implement ICD-10.

One tool highly recommended by experts to help face the upcoming challenges is General Equivalence Mappings, which can help users manage and analyze the code translation to ICD-10. (See Web Extras).

CMS offers a free online version of the tool while some consulting companies, including Flint’s, also have versions available.

Dr. Thorwarth added, “It is time for every radiology practice to commit to an organized and systematic process to make the transition to ICD-10. Your practice and your ability to continue to provide quality care to your patients depend on it.” □

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Website Features All Things ICD-10

The go-to site for all things related to ICD-10, www.icd10monitor.com, not only posts articles written for healthcare practices preparing for the transition, it also features *ICDUniversity.com*, which produces webinars and a bookstore that will sell on-demand webcasts and e-books. The site is hosted by ICD10monitor, an online news and information source created to help healthcare providers make the transition to ICD-10. ICD-10monitor is a division of RAC Monitor, LLC.

The website also features Talk Ten Tuesday, offering up-to-the-minute news and analysis of ICD-10 issues from industry experts and providers offering real-time experiences in making the transition. The program airs live each Tuesday at 10 a.m. Eastern.

Tools, Resources Aid ICD-10 Conversion

The following organizations are involved in the training for ICD-10 conversion and offer resources including timelines, implementation charts, and code-conversion applications.

- Center for Medicare & Medicaid Services, www.cms.gov/ICD10. This site features a free online version of General Equivalence Mappings.
- National Center for Health Statistics, www.cdc.gov/nchs/icd/icd10cm.htm
- American Health Information Management Association, ahima.org/icd10/default.aspx
- AAPC (formerly American Academy of Procedural Coders), www.aapc.com/ICD-10
- American Hospital Association, www.ahacentralfoffice.com/ahacentraloffice/shtml/ICD10overview.shtml



Create Custom Collections Easily with RSNA's Free Teaching File System

Nearly every radiologist has a collection of interesting cases in their personal repertoire, and new updates to RSNA's free Teaching File System have made it easier than ever to compile them.

"It's REALLY surprising how few people know that this tool is available for their use," said Adam E. Flanders, M.D., a professor of radiology and rehabilitation medicine at Thomas Jefferson University Hospital in Philadelphia and chair of RSNA's Radiology Informatics Committee. "It's free and even more accessible and there's no good reason every radiologist shouldn't be using it."

A project of RSNA's Medical Imaging Resource Center (MIRC), RSNA's Teaching File System is a free tool allowing radiologists to author and share their own teaching files, complete with multiple images, histories, findings, diagnoses, discussion and references. Users can then save the files as personal cases accessible via a secure login—or they can submit them to the RSNA collection of shared cases so their colleagues can benefit from them. The MIRC Subcommittee of the Radiology Informatics Committee oversaw development and realization of the project.

"Instant" Collection is Among Improvements

The Teaching File System recently added improvements that make it even easier to use, including a new interface conceptualized by MIRC Subcommittee members Krishna Juluru, M.D., and Marc D. Kohli, M.D.

Each time they access the system, RSNA members use the intuitive new interface to search for and view cases. Along with a standard installer that works on all platforms, the system features a Windows-specific installer developed by MIRC Subcommittee member William J. Weadock, M.D. MIRC software can be installed on a personal or departmental computer. In addition, some facilities have made their MIRC sites available on the Internet.

Another useful feature is a zip service that allows users to convert old images into MIRC files and build an instant collection without starting from scratch.

"If you already have an existing teaching file, say, on a USB drive, with a bunch of cases that you've been collecting for years, a tool built inside the teaching files software will read all that data from your collection of cases and convert them to Web cases," Dr. Flanders said, noting that he uploaded several thousand cases in a single submission.

Along with images, the system allows users to save PowerPoint presentations and convert them to MIRC documents.



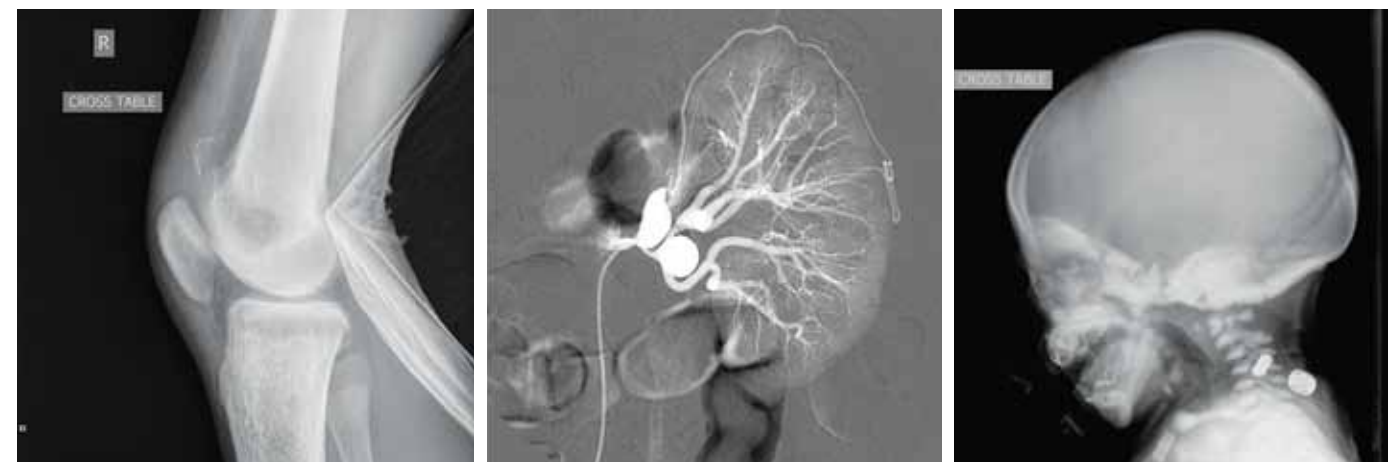
Flanders

The new system is clearly in demand. According to a 2011 RSNA membership survey, nearly 85 percent of respondents collect teaching files and would prefer an easier method to host them, Dr. Flanders said.

"We want users to understand that the Teaching File System is something every radiologist can use, it's free of charge and it has a lot of cool features that make teaching files fast and easy," he added.

“We want users to understand that the Teaching File System is something every radiologist can use, it's free of charge, and it has a lot of cool features that make teaching files fast and easy.”

Adam E. Flanders, M.D.



Using RSNA's Teaching File System, radiologists can author and share their own teaching files, complete with multiple images, histories, findings, diagnoses, discussion and references. Examples from the file: (from left) Bilateral quadriceps tendon rupture secondary to hyperparathyroidism, by Ben Tarigan, M.D., renal artery aneurysms in neurofibromatosis, by Cynthia Tan, M.D., and "osteopetrorickets," by Jimmy Wang, M.D., and Andrew Poznanski, M.D.

Anonymization Capability is "Powerful"

A primary strength of the Teaching File System is its ability to remove Protected Health Information from DICOM images, making it possible to incorporate the images into teaching cases while meeting Health Insurance Portability and Accountability Act (HIPAA) privacy regulations.

The Teaching File System incorporates the same anonymization feature as RSNA's Clinical Trials Processor (CTP) software, another MIRC tool that enables clinical trials administrators to securely move data among multiple institutions. "It's the most powerful anonymizer in the world," Dr. Flanders said.

To provide the maximum educational value, the case should contain text information about the patient. "An old directory-based file usually only contains images, but sometimes there's a text file with information. The zip service is smart enough to recognize the text file and pull it out of the document," Dr. Flanders said.

Although both the CTP and Teaching File System are packaged under the same MIRC banner, Dr. Flanders stresses that they are two separate tools.

The Teaching File System is useful for individuals and institutions alike. In fact, radiologists may have viewed an RSNA Teaching File System interface without even realizing it—for example, the Society of Pediatric Radiology uses it to host its Unknown Cases feature on its website.

A free Teaching File System app for iPhone is now available in the App Store, Dr. Flanders added. While it wasn't developed by RSNA, the app carries the MIRC tagline. It was developed by Houman Ebrahimi, M.B.B.S., radiology registrar at Hunter England Imaging, Newcastle, Australia. A version for iPad is also in development.

"Because this is all open-source, we encourage experimentation—if people want to use bits and pieces of this software to create something, by all means, knock yourself out," Dr. Flanders said.

Users can see the Teaching File System in action—complete with a large collection of sample cases—and download the software in one click with the query mirc.rsna.org/query.

"We wanted to show people what a teaching file site could look like, with real cases," said Dr. Flanders. "There are tons of cases in there to peruse." □

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☑ To download RSNA's free Teaching File System app from the App Store, go to www.itunes.apple.com/us/app/mirc-viewer/id396356646?mt=8

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☑ Collections offered by several institutions running MIRC sites are searchable at mirc.rsna.org/query.

☑ To access a Wiki article on MIRC, go to mircwiki.rsna.org/index.php?title

Forecasters Cautiously Optimistic for Future of Radiology Salaries

For the second consecutive year radiologists saw a modest increase in compensation, typical for healthcare salaries across the board in 2010.

OF THE 30 specialties surveyed in the 2011 American Medical Group Association (AMGA) 24th Annual Medical Group Compensation and Financial Survey, 69 percent noted an increase in compensation in 2010, but averaged just 2.4 percent above 2009.

“The 2.4 percent increase is just below what we typically have seen in recent years,” said Brad Vaudrey, M.B.A., C.P.A., a former director of RSM McGladrey, Inc.’s Health Care Consulting Group, which administered the 2011 AMGA survey. “We don’t expect that flatness to be consistent. I expect salaries to go up in the future.”

AMGA mailed the survey to more than 2,700 medical groups across the country in January 2011. RSM McGladrey received responses from 239 medical groups representing more than 51,700 providers.

Cardiac/thoracic surgeons remained the highest overall compensated specialists with a median annual income of \$532,567, despite an average .10 percent decrease from 2009 to 2010. Cath lab cardiologists reported the second highest compensation, earning a median \$504,099 for a 4.13 percent increase. Orthopedic surgeons earned the third highest compensation, a median \$501,808 for a 0.23 percent increase.

Interventional and diagnostic radiologists were fourth and fifth respectively. Interventional radiologists earned a median \$492,102, a 2.95 percent increase from 2009, while diagnostic radiologists earned a median \$461,250, a 1.55 percent increase.

“In prior years, radiologists’ compensation had some pretty significant increases year after year,” Vaudrey said. “In the last few years that started to taper off, but it really surprised me that the median for diagnostic radiologists had fallen below the average.”

Specialists who received the highest compensation increases from 2009 to 2010 were allergists at



Vaudrey



Fisher

6.3 percent, emergency medical surgeons at 6.37 percent and hospitalists—internal medicine at 6.29 percent. Median salaries for the specialists were \$265,592 for allergists, \$285,910 for emergency medical surgeons and \$229,294 for hospitalists.

Diagnostic Radiologists Work More to Maintain Slight Increase

The survey also reported that the workload for diagnostic radiologists is outpacing their salary increases in terms of relative value units (RVUs), the primary measure of a physician’s productivity. RVUs for diagnostic radiologists increased 3.02 percent, while RVUs for interventional radiologists dropped by 10.93 percent, the largest decrease of any specialty.

Since 2008, diagnostic radiologists’ RVUs have increased 9.01 percent. Only ophthalmologists have

“As demand for radiologists increases and as more radiologists seek affiliations or employment with larger health systems, salaries will fluctuate, increasing or stabilizing depending on the environment. You also may see regional differences linked to demand and the need to be competitive in given markets.”

Donald W. Fisher, Ph.D.

TOP PHYSICIAN COMPENSATION

Specialties	2011	2010	2010-2011 Percentage Change	2009	2008	2009-2011 Percentage Change	2008-2011 Percentage Change
Cardiac/Thoracic Surgery	\$532,567	\$533,084	-0.10	\$507,143	\$497,307	5.01	7.09
Cardiology — Cath Lab	504,099	484,092	4.13	471,746	456,048	6.86	10.54
Orthopedic Surgery	501,808	500,672	0.23	476,083	450,000	5.40	11.51
Diagnostic Radiology (interventional)	492,102	472,000	2.95	478,000	463,219	2.95	6.24
Diagnostic Radiology (non-interventional)	461,250	454,205	1.55	438,115	420,858	5.28	9.60

Source: American Medical Group Association (AMGA) 2010 Medical Group Compensation and Financial Survey.

TOP PHYSICIAN RVUs

Specialties	2011	2010	2010-2011 Percentage Change	2009	2008	2009-2011 Percentage Change	2008-2011 Percentage Change
Cardiac/Thoracic Surgery	\$9,612	\$10,519	-8.62	\$9,861	\$9,878	-2.52	-2.69
Ophthalmology	8,821	8,583	2.77	8,186	7,760	7.76	13.67
Cardiology — Cath Lab	8,629	8,633	-0.05	8,579	8,863	0.59	-2.65
Diagnostic Radiology (non-interventional)	8,296	8,053	3.02	7,968	7,610	4.12	9.01
Orthopedic Surgery	8,026	8,373	-4.14	7,962	7,995	0.80	0.39

*Work relative value units (RVUs) are the primary measure of a physician’s productivity for the majority of participating medical groups. Source: American Medical Group Association (AMGA) 2010 Medical Group Compensation and Financial Survey.

experienced a higher increase in that time, at 13.67 percent.

“It looks like diagnostic radiologists are working very hard and will continue to do so, but for the last few years the rate of compensation has been flattening out for the specialty,” Vaudrey said. “For this year, they actually had to work more to maintain a modest increase in compensation.”

Vaudrey said medical groups are still providing bonuses, but outcomes and quality incentives have become larger factors in specialties outside radiology, which still uses productivity as the measuring stick.

“I haven’t seen a lot of quality incentives tied to radiology plans,” Vaudrey said. “Right now those quality incentives are more focused toward primary care where those measures are readily available and have been vetted out. At least for now, I haven’t seen that incorporated into radiology, but I think that will be coming. Right now, it’s still more productivity-based when talking about radiology.”

Outlook Hinges on the Economy

The economic downturn continues to impact the modest, overall increases in compensation, said Donald W. Fisher, Ph.D., AMGA president and CEO.

“When money is tight, patients will often put off procedures or even wellness checks,” Dr. Fisher said. “This has had an effect on the entire delivery stream, including radiology.”

“As more medical groups have merged or consolidated, they have increasingly brought radiology

services under one roof not only to enhance the patient experience and improve physician efficiency but also to capture revenue,” Dr. Fisher added. “As demand for radiologists increases and as more radiologists seek affiliations or employment with larger health systems, salaries will fluctuate, increasing or stabilizing depending on the environment. You also may see regional differences linked to demand and the need to be competitive in given markets.”

Forecasting radiology compensation for the coming year is a difficult task, Dr. Fisher said.

“There seems to be a spike every few years in radiologists’ salaries, and then a modest increase for the next several years,” he said. “We haven’t seen a significant jump in salaries in a few years. That said, so many factors contribute to spikes—new technology and Medicare and Medicaid Services reimbursement schedule changes, among others—that it is often hard to predict. Unless the economy improves, we probably won’t see significant increases in compensation in the coming year.” □

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More information about the American Medical Group Association is available at www.amga.org.

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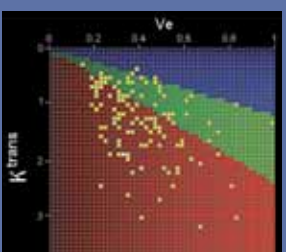
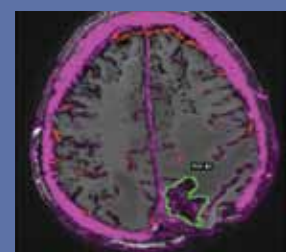
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YOUR DONATIONS IN ACTION

With an RSNA R&E Foundation Research Scholar Grant, **Mark S. Shiroishi, M.D.**, is addressing a key issue in neuro-oncology imaging involving the validation of permeability and perfusion MR imaging biomarkers to non-invasively differentiate between chemoradiation-induced therapeutic necrosis, or "pseudoprogression," and true early tumor progression in patients with high-grade glioma.



Example of true early tumor progression and joint histogram demonstrating permeability MR imaging biomarkers K^{trans} (transfer constant) and V_e (fractional volume of the extravascular-extracellular space).

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DEADLINES FOR 2012 GRANT APPLICATIONS

The application process for 2012 R&E Foundation grants is now open. Deadlines are:

- January 10, Education Grants
- January 15, Research Grants
- February 1, Research Medical Student Grant

Posters outlining R&E Foundation research and education grant programs, as well as programs for which international RSNA members are eligible, are available for download at RSNA.org/Foundation/GrantPosters.cfm. Learn more about applying for R&E grants at RSNA.org/Foundation.



Journal Highlights

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

Computer-aided Diagnosis: How to Move from the Laboratory to the Clinic

ALTHOUGH COMPUTER-AIDED diagnosis (CAD) is an established and rapidly growing field of research, most radiologists do not yet use the technology in daily practice. When successfully integrated into the clinic, CAD can speed up the diagnostic process, reduce diagnostic errors and improve quantitative evaluation.

Performance is still the major bottleneck for many CAD systems, according to Bram van Ginneken, Ph.D., of Radboud University Nijmegen Medical Centre, the Netherlands, and colleagues, who discuss moving CAD from the laboratory to the clinic in a State-of-the Art review in the December issue of *Radiology* (RSNA.org/*Radiology*).

Along with reviewing the principles of CAD for lesion detection and quantification and illustrating the state of the art with various examples, the authors discuss radiologists' requirements for CAD: suf-

ficient performance, no increase in reading time, seamless workflow integration, regulatory approval and cost efficiency.

Radiologists will play a key role in CAD development, according to Dr. Ginneken and colleagues. "Radiologists need to identify promising application areas, help create high-quality annotated databases for training and validation of CAD systems, and demand that manufacturers embrace open standards so that the best CAD software can be readily installed on any workstation," the authors write.

A radiograph of the left hand and wrist analyzed with BoneXpert. The program reconstructs the borders of 15 bones and estimates bone age for 13 bones, displayed. These are combined with a nonlinear function to obtain the Greulich Pyle bone age, 9.03 years for this case. Running time for the analysis was four seconds.

(*Radiology* 2011; 261:3:719-732) ©RSNA, 2011. All rights reserved. Printed with permission.



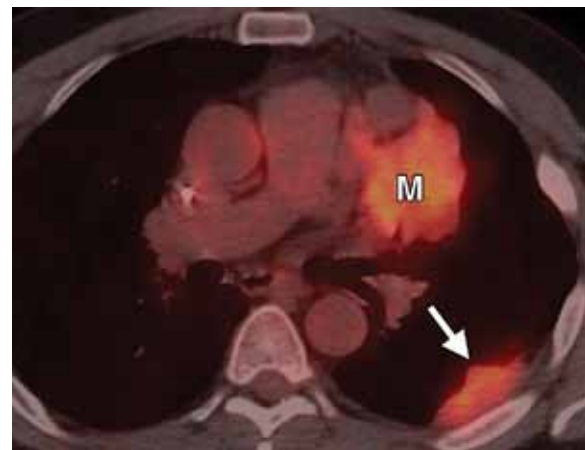
Role of Imaging in the Diagnosis, Staging and Treatment of Thymoma

WHILE thymoma is a rare mediastinal neoplasm, it is the most common primary neoplasm of the anterior mediastinum. Of the few published reports assessing this disease, many were conducted at a single institution and span several decades, which may lead to potentially misleading conclusions related to diagnosis, staging and treatment.

Radiologists must be aware of the full spectrum of imaging findings of thymoma, standard guidelines for diagnostic evaluation and how imaging findings affect therapeutic decisions, according to an article in the November-December issue of *RadioGraphics* (RSNA.org/*RadioGraphics*) by Marcelo F.K. Benveniste, M.D., of the University of Texas MD Anderson Cancer Center in Houston, and colleagues.

Specifically, the authors describe the epidemiologic, pathologic and clinical features of thymoma and discuss the classification, staging, treatment, imaging evaluation, differential diagnosis and recurrence and follow-up of the disease.

"Imaging plays an essential role in the diagnosis, staging and follow-up of thymoma and CT is the cross-sectional imaging modality of choice," the authors write. "Radiologists should be familiar with the imaging features of advanced-stage thymoma so that they can identify candidates for preoperative neoadjuvant therapy, thereby having a positive impact on patient outcomes."



Stage IVa thymoma in a 50-year-old man. On an axial-fused fluorine-18 fluorodeoxyglucose (FDG) PET/CT image, the primary tumor (M) and the drop metastasis (arrow) are FDG avid.
(*RadioGraphics* 2011; 30:1847-1863) ©RSNA, 2011 All rights reserved. Printed with permission.

Radiology in Public Focus

Media Coverage of RSNA

In September 2011, media outlets carried 378 RSNA-related news stories. These stories reached an estimated 211 million people.

September coverage included *Dallas Morning News*, *Press-Enterprise* (Los Angeles), *Bioscience Technology*, Yahoo! News, *MSN.com*, *USAToday.com*, *HealthDay*, *Health.com*, *iVillage.com*, *BusinessWire.com*, *Examiner.com*, *Ivanhoe.com* and *Science Daily*.



Diabetes, ADHD among RSNA Press 2011 conference Topics

The RSNA 2011 Newsroom press conference schedule offered medical news media access to an abundance of compelling healthcare stories, including new research in diabetes, attention deficit hyperactivity disorder (ADHD), heart disease, breast cancer and Alzheimer's disease.

2011 Press Conferences

- Functional Brain Pathways Disrupted in Children with ADHD
- Restricted Calorie Diet Improves Heart Function in Obese Patients with Diabetes
- Integrated 3-D Imaging Facilitates Human Face Transplantation
- Researchers Use CT to Recreate Stradivarius Violin
- Growth Hormone Increases Bone Formation in Obese Women
- 'Heading' a Soccer Ball Could Lead to Brain Injury
- New Study Supports Mammography Screening at 40
- Virtual Childbirth Simulator Improves Safety of High-Risk Deliveries
- New Technology Gives Patients Control of Medical Image Sharing
- Self-Referral Leads to More Negative Exams for Patients
- Heart Attack Risk Differs Between Men and Women
- Violent Video Games Alter Brain Function in Young Men
- Eating Fish Reduces Risk of Alzheimer's Disease

Check back with *Radiology in Public Focus* in future issues of *RSNA News* for an update on the media coverage these topics received.

December Outreach Activities Focus on MR Imaging

In December, RSNA's 60-Second Checkup radio program focused on the potential of MR imaging to predict the development of Alzheimer's disease in patients.

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Other Radiology Headlines

Radiation for Prostate Cancer May Interfere with Cardiac Devices

Prostate cancer patients undergoing intensity modulated radiation therapy (IMRT), who have implanted cardiac devices for the treatment of heart problems, have a 25 percent chance for the devices to malfunction, according to research presented at the American Society for Radiation Oncology (ASTRO) annual meeting held in Miami Beach, Fla., in October.

Findings are in contrast to previous reports suggesting that unsafe interactions with cardiac pacemakers and cardiac defibrillators and IMRT, a specialized

type of radiation, are rare, according to a press release.

The retrospective study examined 505 men with localized prostate cancer who were treated with IMRT from 2009 to 2011. Of this patient group, 24 patients had cardiac devices and were closely monitored pre- and post-treatment for any interaction with their cardiac device.

Results showed that six patients (25 percent) with cardiac devices experienced a mechanical malfunction as a result of their IMRT treatments, causing the device to reset to the manufacturer's

designated default settings. None of the patients developed clinical cardiac problems, yet two men required pacemaker replacements.

"Study results will hopefully encourage closer monitoring of cardiac devices by both the radiation oncologist and the cardiologist, as many clinicians are unaware of this relatively common interaction," said Steven DiBiase, M.D., a radiation oncologist at the Robert Wood Johnson School of Medicine in Camden, N.J.

Continued on Page 20

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

Education and Funding Opportunities



Writing a Competitive Grant Proposal

REGISTRATION IS BEING ACCEPTED for the RSNA Writing a Competitive Grant Proposal workshop designed for researchers in radiology, radiation oncology, nuclear medicine and related sciences who are interested in actively pursuing federal funding.

February 3-4, 2012
RSNA Headquarters
Oak Brook, Ill.
Application Deadline
December 16, 2011

A limited number of slots are available for this 1½-day intermediate-level program that combines didactic and small group interactive sessions designed to help radiologic researchers understand and apply the key components of writing a competitive grant proposal. Topics to be covered are the NIH grant review process, developing specific aims and funding opportunities.

Guided by a faculty of leading researchers with extensive experience in all aspects of grant applications and funding, the program

will focus on developing realistic expectations and provide tools for getting started. Faculty includes: G. Scott Gazelle, M.D., Ph.D., M.P.H., of Massachusetts General Hospital in Boston, Ruth Carlos, M.D., of the University of Michigan Health System in Ann Arbor, and Elizabeth Burnside, M.D., M.P.H., of the University of Wisconsin in Madison. The course fee is \$175. Registration forms can be found at RSNA.org/CGP. Contact Fiona Miller at 1-630-590-7741 or fmiller@rsna.org for further information.



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 the American Association of Physicists in Medicine, the American Board of Radiology, the American College of Radiology, the American Radium Society, the American Society for Radiation Oncology, the Academy of Radiology Research and RSNA.

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 SAM credit in fulfillment of MOC requirements. Access the modules at RSNA.org/Education/MOC/professionalism.cfm.

Derek Harwood-Nash Fellows Announced



Silva

RSNA has named the recipients of the Derek Harwood-Nash International Fellowship for 2012:

- **Claudio S. Silva, M.D.**, of Clinica Alemana de Santiago, Chile, will complete a fellowship at Duke University Medical Center Department of Radiology in Durham, N.C., from September to November 2012.



Nidup

- **Dechen Nidup, M.D.**, of Jigme Dorji Wangchuck National Referral Hospital in Thimphu, Bhutan, will complete a fellowship at Mallinckrodt Institute of Radiology of Washington University in St. Louis, from June to August 2012.

The Derek Harwood-Nash International Fellowship allows international radiologists three to 10 years beyond training to complete a six- to 12-week fellowship at a North American institution. Learn more at RSNA.org/international/CIRE/dbnash.cfm.

Other Radiology Headlines

Continued from page 18

Higher radiation dose does not help lung cancer patients live longer

A higher dose of radiation (74 Gy) does not improve overall survival for non-small cell lung cancer that has spread to the lymph nodes, compared to the standard radiation dose (60 Gy), according to an interim analysis of a late-breaking randomized study presented at the recent meeting of the American Society for Radiation Oncology (ASTRO).

"Most radiation oncologists and lung cancer specialists are surprised by this finding. Although the optimal radiation dose for lung cancer patients has not been tested in a randomized phase III trial for over 30 years, most believed that higher

doses of radiation cured more patients with lung cancer," said Jeffrey Bradley, M.D, a radiation oncologist at the Washington University School of Medicine in St. Louis, in a press release.

The goal of the phase III trial was to determine if high doses of radiation improve survival and also if the chemotherapy drug, Cetuximab, increases survival among stage III non-small cell lung cancer patients. Investigators randomized 423 patients to different doses of radiation therapy and concurrent chemotherapy of paclitaxel and carboplatin with or without Cetuximab. Patients received one of four treatment arms:

RSNA 2011 COURSES TO BE POSTED ONLINE

At each RSNA annual meeting, the RSNA Education Center records several courses and, in the coming months, will post these presentations online as enduring educational materials for RSNA members.

The Education Center would like to thank the faculty who participated in recording their courses at RSNA 2011 as well as those who presented self-assessment modules (SAMs) at the annual meeting.

As part of presenting a SAM, faculty members must write SAMs questions for their course as well as research and provide references for each question. With the help of SAMs faculty, the Education Center was able to provide more than 30 SAMs courses at RSNA 2011.

This year at the RSNA Store, CD collections were a big hit with attendees. Each CD collection contains a set of refresher courses pertaining to a certain subspecialty and includes either two or three CDs. Purchasing a collection saves 25 percent compared to purchasing the same CDs individually. This year, the newest collections available for purchase were the Emergency, Pulmonary, Oncologic and Renal collections.

If you missed us at the RSNA Store this year, visit RSNA.org/education to view the current catalog of products. For information on educational products, contact the Education Center at ed-ctr@rsna.org or 1-800-272-2920.

Medical Meetings

January-March 2012

JANUARY 9-14

Integrating the Healthcare Enterprise (IHE®) North American Connectathon, Hyatt Regency Chicago
• www.ihe.net/Connectathon

JANUARY 28-31

Indian Radiological & Imaging Association (IRIA), 65th Annual Congress, Hyderabad International Convention Centre, Hyderabad, India
• www.iria.in/index.php

JANUARY 26-29

Society of Nuclear Medicine (SNM), 2012 Mid-winter Meeting, Hilton & Holiday Inn, Orlando, Fla.
• www.snm.org

FEBRUARY 4-9

International Society for Optics and Photonics (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 24-29

Society of Interventional Radiology (SIR), 36th Annual Scientific Meeting, Moscone Center, San Francisco
• www.sirweb.org

Annual Meeting Watch

News about RSNA 2012

RSNA 2012 Online Abstract Submission Opens mid-January

The online system to submit abstracts for RSNA 2012 will be activated in mid-January. 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.



Other 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

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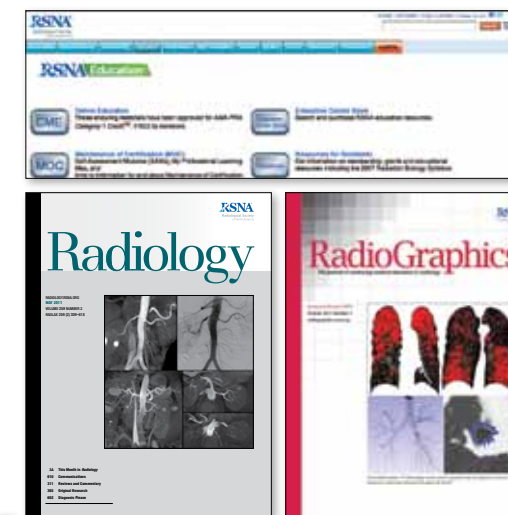
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Renew Your RSNA Membership Now

RSNA membership renewal is due by December 31 to avoid interruption of your subscription to *RSNA News* and many other benefits:

- Access to *Radiology* and *RadioGraphics*
- Access to the myRSNA® personalized Web portal
- Free tools to help with continuing medical education

Renew online at RSNA.org/renew or by mail with the invoice sent to you early in October. For more information, please contact membership@rsna.org or 1-877-RSNA-MEM (1-877-776-2636) or 1-630-571-7873 outside the U.S. and Canada.



Fellowship Connect:

RSNA Online Tool Connects Fellows with Openings

Whether you are a student seeking that first radiology job or a veteran radiologist scouting a career move, searching for a fellowship position just got easier thanks to a new online RSNA resource that connects fellowship seekers with the right opening.

With Fellowship Connect at RSNA.org, users can search for available U.S. fellowships by specialty, location and institution—without leaving their desks.

The site offers these sections:
Fellowship Search: Users can create a search agent to find the radiology fellowships that match their needs or modalities and receive emails

when this type of fellowship becomes available.
Institutions: After creating an account, a hospital or institution can post a company profile to be reviewed by fellowship seekers.

Fellowship Connect was designed under the direction of the RSNA Resident and Fellow

The Value of Membership



Committee, which convenes throughout the year to promote and cultivate new ideas to improve resources for RSNA members-in-training.

Anyone with questions or suggestions about Fellowship Connect can e-mail fellowshipconnect@rsna.org or call 1-630-571-7873.

RSNA.org

New Dashboard Drives myRSNA Redesign

Get ready to simplify—and optimize—your myRSNA experience. Along with a fresh, new look and enhanced functionality, the newly redesigned Web portal has added features including myDashboard and a News Feed that spotlights your recent myRSNA activity. Other updates include consolidating myFiles & Bookmarks to maximize functionality and adding a “tagging” system to the myRSNA search engine.

In addition to many of the familiar functions you’ve come to rely on, these enhancements will help you better find, organize and personalize your myRSNA content:

- **myDashboard:** Manage your account settings (profile picture, password, username) and personal information (name, spouse, etc.) and access a collection of membership benefit tools.
- **mySearch:** The custom search engine that continues to be powered by Google for RSNA allows you to refine results by category (CME, *RSNA.org*, etc.) while icons designate the source of your search (*RadioGraphics*, for example)
- **myFiles & Bookmarks:** These previously separate functions are now consolidated, allowing you to upload, store and access files and bookmark them for later use. Users can “tag” items for easy access, creating a list of “top tags” to organize the most searched items. A quick filter function narrows your search by category (document, video, etc.)
- **myGroups:** Find or create your own group by adding other myRSNA users as members.
- **myCommittees:** Along with providing your committee rosters and meeting schedules, you can use the search engine to find relevant documents and resources, filtering your hunt by category (calendars, schedules, etc.) and creating a list of top search tags. A new messaging feature allows administrators to share information with members.
- **myPortfolio:** Updates to this resident resource for organizing files, case logs, exam results and more include a search engine that filters by competency and case log and creates top search tags. Track CME progress and access CME Gateway here. Monitor your activity on the myPortfolio News Feed.



COMING IN JANUARY

Next month, *RSNA News* will provide an update on the impact of healthcare reform on radiology and insight on how the specialty can thrive during this era of uncertainty and upheaval. The report will include healthcare reform-related session coverage published in the *Daily Bulletin* at RSNA 2011.

CALL FOR ABSTRACTS

Do you want to present at RSNA 2012?

Submit abstracts for scientific presentations, applied science, education exhibits and quality storyboards.

DEADLINE
MARCH 31, 2012
12:00 NOON CHICAGO TIME

SUBMIT
ONLINE AT
RSNA.ORG/ABSTRACTS

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

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RSNA offers online self-assessment modules (SAMs)—and many include *RadioGraphics* articles as part of their didactic content. Here's a sampling of SAMs topics:

VI CT

USUAL & UNUSUAL PATHWAYS IN SVC AND IVC OBSTRUCTION

NR QA

QUALITY CHALLENGES OF BRAIN IMAGING

OB GU

POSTOPERATIVE IMAGING OF THE GYNECOLOGIC PATIENT

BR MO PD

BREAST IMAGING IN CHILDREN AND ADOLESCENTS

MK IR

DIAGNOSIS AND TREATMENT OF OSTEIOD OSTEOMA

RO HN CT MR

BRACHIAL PLEXUS CONTOURING AND RADIOTHERAPY PLANNING

GU CT

RENAL TRANSPLANTATION - DONORS & RECIPIENTS

PD NR MR

NEUROIMAGING & PEDIATRIC EPILEPSY

HN PD NR

DIAGNOSING HEAD AND NECK MASSES IN CHILDREN

BR OI MO US

BREAST MASSES DEFINED AND CATEGORIZED

OI RO GU OB

PELVIC IMAGING FOLLOWING THERAPY FOR MALIGNANCY

GI VI

POST-OPERATIVE IMAGING IN LIVER TRANSPLANTS

GU OB

FEMALE INFERTILITY

MK MR US

WRIST LIGAMENTS AND CARTILAGE

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