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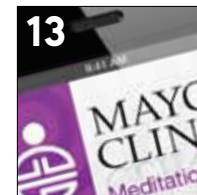
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JACKSON JOINS RSNA BOARD OF DIRECTORS



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Donaldson is RSNA President

SARAH S. DONALDSON, M.D., is RSNA President for 2013. Dr. Donaldson is the Catharine and Howard Avery Professor of Radiation Oncology at Stanford University School of Medicine in Stanford, Calif. She serves as associate residency program director of radiation oncology at Stanford Hospital and Clinics and is chief of radiation oncology service at Lucile Salter Packard Children's Hospital at Stanford.

As president, Dr. Donaldson will help shape and implement RSNA's vision and strategic goals to advance the radiologic sciences and embrace the model of patient-centered care. "I am proud to promote the RSNA mission around the world," she said. "My goal is to enhance collaborations and partnerships amongst the radiologic sciences worldwide to provide efficient, safe and cost-effective use of imaging. I will work with the Board of Directors and the many loyal RSNA member volunteers to promote our strategic plan and to emphasize patient-centered radiology."

Dr. Donaldson has authored or coauthored more than 220 peer-reviewed scientific articles, 81 book chapters and review articles and two books. She has been invited to lecture at more than 200 institutions and meetings throughout North America, Japan, Europe and Australia and is a popular visiting professor at many universities and medical schools across North



America. Dr. Donaldson presented the Annual Oration in Radiation Oncology at the 1995 RSNA annual meeting.

As a longtime member of RSNA, Dr. Donaldson has served on the Board of Trustees of the Research and Education Foundation, the Scientific Exhibits Committee and the Public Information Advisors Network. She was elected second vice president in 2003. In 2005, she was elected to the RSNA Board of Directors and served as the liaison for publications and communications from 2007 to 2010, chairman from 2010 to 2011, and president-elect from 2011 to 2012.

Dr. Donaldson was recently awarded the Dean's Medal of the Stanford School of Medicine and received the Marie Curie Award of the American Association for Women Radiologists in 1998 and the Elizabeth Blackwell Award of the American Medical Women's Association in 2005.

Arenson Becomes Board Chairman

RONALD L. ARENSEN, M.D., the Alexander R. Margulis Distinguished Professor and chair of the Department of Radiology and Biomedical Imaging at the University of California San Francisco, is chairman of the RSNA Board of Directors for 2013.

As chairman, Dr. Arenson will support RSNA's mission to promote excellence in patient care through education, research and technological innovation. "I am hopeful that during the coming year, we can focus attention on informatics, especially on providing RSNA members with useful informatics tools to help them in their careers," he said.

Dr. Arenson's research achievements include the development of a catheter that can be steered in a magnetic field, allowing interventional radiologists to reach further into smaller blood vessels. He and fellow researchers filed a patent on the invention in 2001. The patent was recently nominated for a national fair on technology and Dr. Arenson is now working with faculty on the next stage prototype.

An RSNA member since 1974, Dr. Arenson has served on numerous committees including Public Information Advisors Network, Research Development Committee and the Radiology Informatics Committee (formerly Electronic Communications Committee), of which he served as chairman from 1999 to 2005. In 2007, he was elected to the RSNA Board of Directors and served as the liaison for the annual meeting and informatics from 2007 to 2012.

Dr. Arenson has served on the editorial boards of several journals, including *Radiology*, *Investigative Radiology*, *Journal of Digital Imaging*, *Academic Radiology* and *Journal of the American College of Radiology*. He also has been an active member of several medical societies and organizations including the American Association for Medical Systems and Informatics, American College of Medical Informatics and the American College of Radiology.



Dunnick is President-elect

N. REED DUNNICK, M.D., the Fred Jenner Hodges Professor and chair of the Department of Radiology at the University of Michigan Health System in Ann Arbor, Mich., is the RSNA president-elect for 2013.

As president-elect, Dr. Dunnick will focus on scientific research and education initiatives at the Society's annual meeting and throughout the year. "Advances in healthcare, especially medical imaging and image-guided therapy, enable physicians to deliver better quality care than ever before," he said. "The RSNA is proud of its role in advancing our field by sponsoring research, supporting education and providing a venue for the presentation and discussion of these new concepts."

Dr. Dunnick has authored or coauthored over 300 peer-reviewed scientific articles, 62 book chapters and 10 books. He has served on the editorial boards of 14 journals, including *Radiology*, *American Journal of Roentgenology*, *Academic Radiology* and *Journal of the American College of Radiology*.

A member of RSNA since 1987, Dr. Dunnick has served on many committees including the Scientific Program Committee, Research Development Committee, Education Council and the Grants Program Committee. In 2006, he was elected to the RSNA Board of Directors and served as the liaison for publications and communications and the liaison for science. He served as chairman from 2011 to 2012.

Dr. Dunnick's service to other medical societies and organizations includes the American Board of Radiology Foundation and the American College of Radiology, which he served as vice-president. He is past-president of the American Roentgen Ray Society, Society of Chairmen of Academic Radiology Departments, Society of Computed Body Tomography, Academy of Radiology Research, Society of Uroradiology, Radiology Research Alliance, American Board of Radiology, Association of University Radiologists and the Michigan Radiological Society.



Jackson Named to RSNA Board

VALERIE P. JACKSON, M.D., an expert in breast imaging and radiology resident education, is the newest member of the RSNA Board of Directors. She will serve as Board Liaison for Education.

Richard L. Baron, M.D., is now Board Liaison for International Affairs (see Page 6).

Dr. Jackson is the Eugene C. Klatte Professor and Chair of the Department of Radiology and Imaging Sciences at the Indiana University School of Medicine in Indianapolis.

A co-presenter of the RSNA Faculty Development Workshop, Dr. Jackson is committed to upholding RSNA's reputation by helping the Society capitalize on digital education opportunities. "There is so much innovation going on right now—to be able to facilitate the integration of new technologies is really exciting."

An RSNA member since 1982, Dr. Jackson has served as chair of the Refresher Course Committee and the Breast Imaging Subcommittee of the Scientific Program Committee and as a member of the *RSNA News* Editorial Board. She is a member of the RSNA Centennial Committee, has been active on many committees of the RSNA Research & Education (R&E) Foundation and serves on the R&E Foundation Board of Trustees.

"RSNA has been instrumental in giving me opportunities throughout my career—it is the single organization that has enabled me to get to where I am today," Dr. Jackson said.





"A United Nations of Radiologists" Gathers in Chicago

At the invitation of Chicago-area radiologist Leonard Berlin, M.D., radiologists from distant nations gathered in the Windy City for a Thanksgiving feast before attending RSNA 2012. Calling it a "United Nations of Radiologists," Dr. Berlin said the group "experienced wonderful camaraderie, friendship and conversation the entire afternoon and evening." From left: Dr. Moshe Graif (*Israel*); Dr. Tufik Bauab (*Brazil*); Dr. Selma Bauab (*Brazil*); Dr. Berlin and wife, Phyllis (*U.S.*); Dr. Eamann Breatnach (*Ireland*); Mrs. Laura Ramirez (*Mexico*); Dr. Jose Luis Ramirez-Arias (*Mexico*); Dr. Hassen Gharbi (*Tunisia*); Dr. Najoua Gharbi (*Tunisia*); Mrs. Tricia Berlin (*U.S.*); Dr. Jonathan Berlin (*U.S.*). For more on the gathering, see the online edition of *RSNA News* at RSNA.org/NewsLandingPage.aspx and the tablet edition available on the App Store and Android Market.

Borgstede is R&E Chair

James P. Borgstede, M.D., is the new chair of the RSNA Research & Education (R&E) Foundation Board of Trustees.

Dr. Borgstede is a professor of radiology and vice-chair for professional services, clinical operations and quality at the University of Colorado, Denver. He has served on the R&E Board of Trustees since 2008 and on the R&E Corporate Giving and Public Relations committees. He also served on the RSNA Quality Improvement Committee.

"The R&E Foundation is vital because today's research is tomorrow's practice," Dr. Borgstede said. "Supporting the Foundation is an excellent opportunity to advance our specialty for the benefit of our patients."

Dr. Borgstede serves as the president of the American Board of Radiology and is president-elect of the International Society of Radiology.



Borgstede

Numbers in the News

130

Estimated number in millions of dollars contributed to Chicago's economy by RSNA 2012 attendees. [Get an early update on RSNA 2013 on Page 23.](#)

45-60

Percentage of patients who said they would like to receive results of radiology reports immediately. [Learn more about the results of the survey presented at RSNA 2012 on Page 9.](#)

6

Number of physicians per 1,000 inhabitants in Cuba, one of the countries discussed by presenters of an RSNA 2012 International Trends meeting focusing on the global radiology workforce. [Read more on Page 5.](#)

18

Number of videos in the new Patient Safety in Imaging app recently launched by *Radiology Info.org*, the RSNA/American College of Radiology (ACR) public information website. [Read more about the app on Page 22.](#)

My Turn

A Tribute to the R&E Foundation

As I begin my tenure as RSNA president, I find myself in the unique position to have an 8-year panoramic perspective of RSNA programs. I am most proud of the RSNA Research and Education (R&E) Foundation. The idea of RSNA providing research funding emerged in the early 1980s, when the RSNA Board of Directors recognized the need to help young investigators jumpstart their academic research careers in the radiologic sciences—radiology research money was virtually nonexistent at this time.

The Board of Directors convened an ad hoc Strategic Planning Committee, which in turn defined the scope and charge of the "R&E Scholarship Fund" and received an initial \$1,000,000 endowment from RSNA. This scholarship fund ultimately became the RSNA R&E Foundation.

My introduction to the Foundation came in 1993, when I first served as a grant reviewer. Subsequently I was invited by the late Helen Redman, M.D., 1995 RSNA President, to join the Foundation Board of Trustees. I've now been involved with the Foundation continuously for 20 years and have witnessed first-hand its remarkable evolution. Some statistics illustrate the incredible growth.

In 1985, an eight-member team of R&E Board of Trustee members served as grant reviewers, with help from expert consultants as needed. Compare this to 2012, when more than 60 RSNA members reviewed applications as part of the radiology research, radiation oncology research and education study sections or the medical student research review panel.

During the first funding year, 1986, 11 grant applications were received; in 2012, that number was 196! In 1986, two grants were funded; in 2012, the number of new projects funded was 72! As of 2012, the Foundation has awarded \$37.3 million to support 957 projects, supporting nearly as many physician-scientists investigating the radiologic sciences.

A 2008 survey confirmed that, on average, each Foundation dollar awarded had generated more than 30 dollars in subsequent grants from other sources, largely the NIH. This return on investment translates

to over \$1 billion of funding stemming from Foundation grants.

Grant recipients have become department chairs and leaders in organized radiology. They have served RSNA as volunteers, some as members of the Foundation Board of Trustees and Board of Directors. Many grant recipients now mentor their own residents, fellows and junior faculty through the R&E process. Grant recipients also support the Foundation by serving as grant reviewers and committee members and through their generous donations.

Clearly the vision of the RSNA Board of Directors has benefited all of radiology, much more so than seemed imaginable 25-plus years ago. For my own part, I encourage every department chair and program director, of every diagnostic radiology and radiation oncology department, to join RSNA and become familiar with the Foundation grant programs. I encourage academic departments and community practices to donate to the Foundation, as a group or as individuals. Nothing is a more important investment in the future of radiology and the radiologic sciences.



Sarah S. Donaldson, M.D., is 2013 RSNA President and serves as a trustee of the R&E Foundation Board of Trustees. Dr. Donaldson is the Catharine and Howard Avery Professor of Radiation Oncology at Stanford University School of Medicine, associate residency program director of radiation oncology at Stanford Hospital and Clinics and chief of radiation oncology service at Lucile Salter Packard Children's Hospital. She is a Presidents Circle Donor.

IN MEMORIAM

Robert E. Wise, M.D.

Past-RSNA President **Robert E. Wise, M.D.**, died August 12, 2012. He was 94.

During his nearly 60 years at Lahey Clinic, in Burlington, Mass., Dr. Wise assumed numerous management and medical roles. He first joined the clinic in 1953 as a staff member in the Department of Radiology. He was appointed chairman of the board of governors, chairman of the board of trustees, and assumed the duties of chief executive officer, a position he held until his retirement in 1991.

Dr. Wise served as chair of the Lahey Clinic's Department of Radiology, authored several research papers and two medical textbooks. In addition, he was an early adopter of many technologies including ultrasound, MR

imaging and CT scanning.

Dr. Wise chaired the departments of radiology at New England Baptist Hospital in Boston and Brooks Hospital and was a staff member of the Department of Radiology at the former New England Deaconess Hospital in Boston. He served as a clinical professor of radiology at Boston University School of Medicine and held visiting professorships at medical schools in Houston, Pittsburgh and Toronto.

Dr. Wise served as president of the American College of Radiology, Massachusetts Radiological Society, Eastern Radiological Society and the New England Roentgen Ray Society. Dr. Wise served as RSNA president in 1974 and received the RSNA Gold Medal in 1979.



IN MEMORIAM

Carl B. Puylaert, M.D.

RSNA Honorary Member **Carl B. Puylaert, M.D.**, died June 19, 2012. He was 89.

Dr. Puylaert was a radiologist in Tilburg, the Netherlands, before he started his career as professor of radiology in the University Hospital of Utrecht until 1986. His scientific contributions focused on Dotter Procedures on renal arteries.

Dr. Puylaert was chair of the Radiological Society of the Netherlands and also an honorary member of the society. He was recognized with honorary membership of the Cardiovascular and Interventional Radiological Society of Europe and of the national radiological societies of Portugal, Luxemburg and Thailand. Dr. Puylaert was an RSNA Honorary Member in 1984.



THE R&E FOUNDATION: THEN AND NOW



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Radiologists Worldwide Face Similar Training and Staffing Issues

Assessing the state of the global radiology workforce involves a number of factors, including regional differences in who can call themselves radiologists and the number of public versus private radiology practices, according to radiologists from around the globe who gathered for an “International Trends” meeting at RSNA 2012.

LATIN AMERICA, comprising 20 diverse countries with a total population of nearly 586 million, is “the most unequal region of the world,” said Gloria Soto Giordani, M.D., a radiologist with the Department of Radiology, Clinica Alemana de Santiago, Chile. Physicians per 1,000 inhabitants in each country range from just 0.25 in Nicaragua to 3.5 in Uruguay and 6 in Cuba.

Radiologists in Latin American countries are scarcer, with the radiologist per 100,000 inhabitants ratio ranging from 89 in Honduras and 96 in El Salvador to 5.7 in Cuba and 4.99 in Argentina. “There are great differences among and within countries in issues related to radiology,” Dr. Soto Giordani said.

Radiology workforce information was obtained from a survey sent by e-mail to the presidents of the national radiology societies of the countries that make up the Colegio Interamericano de Radiología, (Inter-American College of Radiology), all Latin American countries except Paraguay.

“Many countries don’t know the exact number of radiologists they have,” Dr. Soto Giordani said. Confusion is created because of non-associated members and physicians performing as radiologists with no formal training. In most countries, radiologists work both in private and public practice, although Cuba has no private practice, Dr. Soto Giordani added.

Of note is the fact that many public practices have no radiologists at night, Dr. Soto Giordani said. “In those that have a residency program, residents do the night work, which is validated by a staff the next morning,” she said.

In Europe, the European Society of Radiology is “trying to harmonize training” across countries, said Luís Donoso-Bach, M.D., director of the Centre de Diagnòstic per la Imatge Clínic at the University of Barcelona. Included in that effort is the European Training Charter for Clinical Radiology and European Diploma in Radiology (EDiR).

ON THE COVER
Despite their geographic differences, radiologists from across the world discussed common workforce issues at RSNA 2012.



Leading radiologists from around the world gathered to discuss concerns about workplace issues at the RSNA 2012 “International Trends” meeting.

Expanded Role of Radiographers Sparks Debate

Yves Menu, M.D., meanwhile, noted that while there are between 80,000 and 100,000 radiographers in Europe, few are members of a national or international society. Radiographers from the north are more likely to join a society than those from the south, added Dr. Menu, a professor and chairman of radiology at Saint Antoine Hospital, Pierre and Marie Curie University, Paris. That same latitudinal boundary seems to drive differences in extending sonography responsibilities to radiographers, he said—radiologists in some countries strongly favor such an expanded role, while in other countries there is strong opposition.

“There is a debate based on the training curriculum that poorly prepares technologists to perform extended tasks today, at least in Southern Europe,” Dr. Menu said. “Some

“Many countries don’t know the exact number of radiologists they have.”

Gloria Soto Giordani, M.D.



The discussion of the radiology workplace included an assessment of the expanded role radiographers are playing in Europe and turf battles with other specialties over image-guided interventional procedures and vascular/interventional radiology, as well as diagnostic imaging of coronary CT, in Asia.



countries have organized university training while others have a vocational organization. Finally, the question of the balance between radiologists and radiographers and the equilibrium seems to be different from one country to another.”

In the U.S., the ratio of technologists to radiologists is seven to one (225,000 technologists to 32,000 radiologists), according to Edward I. Bluth, M.D., chairman of the Department of Radiology at Ochsner Health System in New Orleans, La.

“The U.S. offers a very significant educational system that is very robust for technologists,” Dr. Bluth said. That system includes accredited, educational programs by recognized organizations that offer competency-based educational programs and certification exams, Dr. Bluth said.

Turf battles with other specialties over image-guided interventional procedures and vascular/interventional radiology, as well as diagnostic imaging of coronary CT, are occurring in Asia, said

Sachio Kuribayashi, M.D., of Keio University of Medicine in Tokyo. E. Stephen Amis, Jr., M.D., professor and chairman of the Department of Radiology at the Einstein College of Medicine/Montefiore University Hospital in Bronx, N.Y., talked of similar conflicts in the U.S., with radiology performed by non-radiologists.

“We’re losing the battle,” Dr. Amis said, noting that radiologists are now paid less than non-radiologists for noninvasive imaging, a figure of \$4.8 billion as opposed to \$4.6 billion annually.

“A lot of people who aren’t radiologists claim imaging as part of their practice,” Dr. Amis said. “It’s very competitive. It’s a tough turf. As the reimbursement goes down, doctors will do things to try and keep their income level stable.”

Free-standing clinics and private practices are losing ground, according to Dr. Amis. “It’s not uncommon for other doctors to get first preference over radiologists,” he said. □

Daily Bulletin coverage of RSNA 2012 is available at RSNA.org/bulletin.

BARON IS BOARD LIAISON FOR INTERNATIONAL AFFAIRS

Richard L. Baron, M.D., who served the RSNA Board of Directors as liaison for education from 2009 to 2012, is the new Board Liaison for International Affairs. Valerie P. Jackson, M.D., replaces Dr. Baron as education liaison (see Page 2).

Dr. Baron is dean for clinical practice and a professor of radiology at the University of

Chicago Pritzker School of Medicine. In his new position with the RSNA Board, he will have responsibility for the development of a comprehensive international strategy and will facilitate Board direction and oversight of all international related activities. In



Baron

this capacity, Dr. Baron will chair the Board Committee on International Affairs, and will serve as Board Liaison to the Committee on International Radiology Education and the International Advisory Committee.

Understanding Common Athletic Injury is Key to Prevention

An improved understanding of potential athletic pubalgia injuries—a clinical spectrum of disease associated with lower abdominal and groin injuries affecting both high performance and recreational athletes—could lead to better training techniques and regimens to reduce occurrences, according to findings presented at RSNA 2012.

ARVIN KHETERPAL, M.D., a third-year resident at Thomas Jefferson University Hospital in Philadelphia, conducted a retrospective study of 70 American football players treated at his facility. Players averaged about 22 years old and ranged in playing level from professional to college to high school and some recreational.

“Nobody had actually looked to see whether specific lesions and injury patterns are correlated with any specific activity,” Dr. Kheterpal said. “We know there are distinct patterns of injury that we see on MR, but we don’t know if there are any reproducible patterns in football, in particular. That’s why we wanted to take a look at it.”

Dr. Kheterpal learned that 41.4 percent of the pubalgia cases occurred in the midline section, and 44 percent had unilateral aponeurosis injury, leading him to conclude that pubalgia could be prevented with focused core-strengthening training.

Pubalgia is often referred to as “sports hernia” by media and has become well-known by people who play or follow football, as it occurs regularly to athletes throughout a season. A Google search on the term “sports hernia,” included in Dr. Kheter-



Kheterpal

pal’s presentation, produced more than 1.7 million results. Dr. Kheterpal hastened to add, however, that the term is technically incorrect—rarely does an actual hernia occur.

Prostate Cancer Outcomes Worse for Arab Americans

Significant differences in mortality and incidence exist among ethnicities when it comes to prostate cancer, and it appears that Arab or Chaldean (Iraqi Catholic) Americans in Southeastern Michigan have worse outcomes for the disease than other ethnic groups, said Ovidiu Marina, M.D., during an RSNA 2012 session.

There is an imperative to this kind of research in areas like metropolitan Detroit, which is, according to Dr. Marina, home to 320,000 Arab and Chaldean Americans (the largest concentration of Arab Americans in the U.S.) as well as Dr. Marina’s institution, William Beaumont Hospital.

According to co-investigator Mohamad Dabjan, M.D., also of Beaumont Hospital, while there have been studies on outcomes of prostate cancer treatment for African Americans and Hispanic Americans, “there has been no large study of Arab or Chaldean Americans, and we need to see if there is any difference in outcomes.”

This study followed 2,672 patients with prostate cancer

who were treated with definitive radiation therapy (brachytherapy, external beam therapy, and brachytherapy boost) between 1991 and 2011. Patients were categorized by ethnicity into European Americans (2,248 patients), African Americans (287 patients) and Arab and Chaldean Americans (137 patients). Researchers then compared clinical outcomes by ethnicity according to biochemical control, disease-free survival, cause-specific survival and overall survival.

Researchers found no difference in clinical outcomes by ethnicity for low-risk patients. But, while there were no

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“Athletic pubalgia can be very debilitating,” said Arvin Kheterpal, M.D., whose RSNA 2012 research on football players showed distinct injury patterns on MR. Dr. Kheterpal concluded that pubalgia could be prevented with focused core-strengthening training.

Pubalgia recently received attention when a National Football League player suffered a groin injury and was forced to leave a nationally televised game on Thanksgiving Day. The player, a linebacker for the Houston Texans, was expected to miss three to four weeks of playing time.

“Athletic pubalgia can be very debilitating,” Dr. Kheterpal said. “It can lead to loss of playing time or prematurely cut short careers. We’re pretty excited about what we found, but there’s actually quite a bit of work that needs to be done. For us this is only the tip of the iceberg.”

Dr. Kheterpal said his group has anecdotally noted similar distinct injury patterns in other sports and within football. For example, a linebacker often generates lateral motion, as the position dictates, and is more likely to suffer a unilateral injury. A quarterback, however, doesn’t generate as much lateral motion, and would be more likely to receive a midline injury. He added the same could be true for other sports and specific positions as well, including baseball hitters and pitchers, hockey goalies and defensemen, soccer forwards and lacrosse attackmen.

“We have a feeling that depending on the position you play and sport you play, you may be predisposed to a different injury,” Dr. Kheterpal said. □

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“We know there are distinct patterns of injury that we see on MR, but we don’t know if there are any reproducible patterns in football, in particular. That’s why we wanted to take a look at it.”

Arvin Kheterpal, M.D.

differences in clinical outcomes for intermediate-risk patients in biomedical control and overall survival, Arab and Chaldean Americans had reduced cause-specific survival rates and a trend towards reduced disease-free survival. Finally, in high-risk patients, Arab and Chaldean Americans had significantly reduced rates of disease-free survival, according to researchers.

“Outcomes were worse for Arab and Chaldean Americans than for white and African Americans, but we don’t know why that is,” said Dr. Dabjan although Dr. Marina suggested there could be several reasons. He pointed out, for example, that the African American community in the area in which the study took place is more affluent than the Arab and Chaldean American community.

In addition, said Dr. Marina, there could be socioeconomic issues associated with the differences in outcomes. “This is largely an immigrant population,” Dr. Marina said. “So in ways they still do have barriers to care due to difficulty with language,

sometimes cost and (with access) to transportation,” he said. In addition, Arab and Chaldean Americans have significantly lower follow up rates than their white and African American counterparts.

According to Dr. Dabjan, more investigation will be needed to assess the impact of diet, socioeconomic and cultural factors on outcomes, but it is clear that many Arab and Chaldean Americans “don’t screen well” for prostate cancer. “We need to educate the population about the benefits of early screening and detection,” he said. □



Marina

WEB EXTRAS

To view a video of Mohamad Dabjan, M.D., discussing his research, go to rsnanews.RSNA.org.

RSNA 2012's Patient-Centered Focus Sets Course for Radiology's Future

In tandem with the message delivered by 2012 RSNA President George S. Bisset, III, M.D., in his President's Address, patient-centered programming kept RSNA 2012 attendees engaged and informed throughout the week. RSNA 2012 initiatives—including the new Radiology Cares campaign challenging radiologists to take a more visible and active role throughout their patients' radiologic care—put patients front and center and established a course for the future. Dr. Bisset challenged attendees to maintain this focus long after the meeting ends. "Remember that we exist to serve our patients...not the other way around." Highlights of *Daily Bulletin* coverage include:



Significant Benefits of CT Reflected in Literature, Not Media Reports

Anyone who needs a reminder of the tremendous daily benefits provided by CT need only imagine going any length of time without the modality.

After decades of relying on CT for everything from common everyday conditions to life-threatening ailments, can any of us imagine what the world would be like without CT—even for two weeks?

That was the question—and the wakeup call—issued by Cynthia H. McCollough, Ph.D., in her RSNA 2012 session, "Radiation Dose in Medical Imaging: What Do the Numbers Really Mean?" that served as a reminder of the critical, often life-saving benefits CT provides despite the alarmist media

stories focusing only on potential risks—however slight.

"The benefits tend to get lost, so it's important not only to refresh our memories, but to make sure we tell patients and referring physicians of the importance of CT as well," said Dr. McCollough, a professor of medical physics and biomedical engineering at the Mayo Clinic in Rochester, Minn.

The benefit-to-risk ratio is often misunderstood, Dr. McCollough said. She relayed the story of a small child brought to an emergency room crying, pale and vomiting after falling out

of a window. Doctors followed guidelines stating that CT scans are typically only performed when a child loses consciousness after hitting his or her head, and that "a CT scan exposes a child to radiation equal to 300 X-rays, and can require sedation, which is risky."

Doctors discharged the child without performing a CT; he died hours later from a subdural hematoma.

"The long and short of it is that the head CT would have detected bleeding in his brain, likely saving his life," Dr. McCollough said. "Head CT finds these kinds of things everyday."

Such incidents are likely rooted in public fear generated by media reports relaying the hypothetical risks of radiation dosage without giving equal coverage to the overwhelming benefits provided by CT. By contrast, the media rarely focuses on risks involved with not receiving a necessary CT scan.

"Our goal as imaging professionals is to put this information into perspective," Dr. McCollough said.

Data Proves Efficacy of CT

While the risks associated with CT will continue to remain controversial, the benefits of medically appropriate CT are not, according to Dr. McCollough.

"We must not continue to discuss small hypothetical risks without emphasizing large, well-documented benefits," Dr. McCollough said. "Personal experience and anecdotal stories are not enough. Consensus guidelines and outcome studies must be cited."

Prospective, blinded, randomized trials are the gold standard for demonstrating the efficacy of CT, she said, pointing out that such research is available for new applications including CT colonography and coronary CT angiographs. "These new applications used to be the new kids on the block, so in order to get accepted, researchers performed blinded, randomized studies to prove their efficacy in quantitative ways," Dr. McCollough said.

The American College of Radiology (ACR) Appropriateness Criteria offers evidence-based guidelines to assist referring physicians and other providers in making the most appropriate imaging or treatment decision for a specific clinical condition.

Daily Bulletin coverage of RSNA 2012 is available at RSNA.org/bulletin.

Dr. McCollough cited many clinical scenarios for which ACR expert panels considered CT as one of the most or the single most appropriate imaging modality.

Published research cited by Dr. McCollough includes, "Acute Appendicitis: A Meta-Analysis of Diagnostic Performance CT and Graded Compression US Related to Prevalence of Disease," in *Radiology* and "Accuracy of Non-focused Helical CT for the Diagnosis of Acute Appendicitis: A 5-Year Review," in the *American Journal of Roentgenology*.

She also recommends citing observational/retrospective studies in which the clinician/surgeon determines a management plan without CT and then re-evaluates the plan incorporating CT results. Results quantify the number of changed diagnoses/management plans and the significance of those changes.

Above all, she stresses maximizing the benefit-to-risk ratio whenever possible. The goal is always to keep doses as low as reasonably achievable, eliminate unnecessary exams/phases, commit to Image Gently and Image Wisely campaigns and invest in dose reduction technology.

"While we can increase the benefit-to-risk ratio by decreasing the risk (i.e. decreasing dose), the deciding factor on whether or not the exam is justified is always dominated by the benefit discussion," Dr. McCollough said.

McCollough



Most Patients Favor Direct Access to Radiology Reports

A survey of a small cohort of patients shows that the majority favor direct access to their radiology reports—via an online portal immediately after the study is read—according to presenters at an RSNA 2012 session.

"I am now convinced that patients want our input as radiologists, and that's good news," said Annette J. Johnson, M.D., M.S., a co-presenter of "Providing Reports Directly to Patients: Should You Do It?" Dr. Johnson is an associate professor of radiology at Wake Forest Baptist Medical Center in Winston-Salem, N.C.

Dr. Johnson's team performed simulation- and focus group-based research with a small cohort of patients, asking if they would like to receive results via an online portal. For the simulation, they were asked to imagine that they had undergone spinal MR imaging to investigate leg weakness and back pain, with the results being potentially "normal," "indeterminate" or "seriously abnormal" (possible cancer).

The majority of patients—45 to 60 percent—responded that they would want to see the results immediately, even if

their doctor most likely had not had a chance to review them.

"Those surveyed overwhelmingly thought faster would be better," Dr. Johnson said. "Patients clearly believe that they're more anxious waiting for results."

The results did not vary significantly according to age, gender or scenario, even when the results were indeterminate or seriously abnormal, Dr. Johnson said. Respondents frequently answered that, given results before the opportunity to speak with their physicians, they would seek out information on their own or seek support from a knowledgeable family member, friend or fellow churchgoer.

The notion of providing a radiology report to a layperson naturally raises concerns among radiologists, said session co-presenter Curtis P. Langlotz, M.D., Ph.D, who discussed apprehensions that arose at the University of Pennsylvania

(UPenn) Health System in Philadelphia before a patient portal was implemented in June of this year.

"Physicians were concerned that seeing reports would cause unnecessary anxiety for patients, and that this was not a compassionate way to communicate with them," said Dr. Langlotz, vice-chair for informatics in the Department of Radiology at UPenn and a member of RSNA's Radiology Informatics Committee. "They were also concerned that they would be overwhelmed with calls and questions and that patients might even figure out how to call the radiologists directly."

However, Dr. Langlotz added, "we had 85,000 activated accounts, and a grand total of four patient calls."

Richard Taxin, M.D., president of Southeast Radiology, Ltd., in Pennsylvania, noted a legislative program proposed about four years ago that would have made radiologists responsible for providing "summary reports" directly to patients, which was dismissed as "an unfunded mandate with potentially huge costs."

"More communication might improve patient care by making radiologists more visible to patients, but some radiologists don't want to be seen," Dr. Taxin said. "It could reduce malpractice lawsuits, but maybe we're just kidding ourselves."

Proposals to optimize communication with patients in-

cluded a "summary" of the report written in addition to the radiologist's full report, condensed and explained in layperson's terms. Writing such a summary would be time-consuming for radiologists, Dr. Johnson said, but radiologists can also opt to embed hyperlinks in the report to provide information on terms that might require additional definition.

"The hyperlinks would direct patients to a credible source, which those surveyed really appreciated," Dr. Johnson said.

Asked about discrepancies between the "layperson's" summary and the radiologist's full report, co-presenter Leonard Berlin, M.D., was quick to respond. "There's no reason there should be discrepancies," said Dr. Berlin, a radiologist at Skokie Hospital, Illinois, and a professor of radiology at Rush University and the University of Illinois, Chicago. "The information should be the same, just condensed for the patient's understanding. If the two summaries have different information, you've got a problem."

"It's the information age, and people are no longer satisfied with someone telling them, 'Oh, your MRI was fine,'" Dr. Johnson concluded. "Many physicians are concerned that patients won't understand our reports. I think we underestimate them." □

In the Spotlight: RSNA® 2012

Along with a stellar lineup of world-renowned presenters and lecturers, a full roster of cutting-edge research, technical exhibits and popular programs—many focused on patient-centered care—kept the more than 53,000 RSNA 2012 attendees on-the-go all week. Technology once again played a pivotal role with the return of the RSNA Virtual Meeting and RSNA-DxLive™ sessions and the launch of all-new Mobile Connect area staffed with RSNA experts answering attendees’ tech-related questions. Also new in 2012: attendees hit the road for RSNA’s first Annual Meeting 5k fun run, raising \$20,250 for the RSNA Research & Education (R&E) Foundation.



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- 1 Attendees traversed the bridge between the Lakeside Center and the Grand Concourse throughout the week.
- 2 Poster presentations and education exhibits were popular attractions in the Lakeside Learning Center.
- 3 The familiar “i” icon led attendees to Help Centers stationed throughout McCormick Place.
- 4 2012 RSNA President George S. Bisset III, M.D., opened RSNA 2012 with his President’s Address focusing on the importance of patient-centered care.
- 5 RSNA’s first Annual Meeting 5k fun run along Lake Michigan raised more than \$20,000 for the Research & Education Foundation.

- 6 The all-new RSNA Mobile Connect kept RSNA staff busy helping attendees with tech issues ranging from using QR Codes and downloading apps to posting a Tweet and participating in RSNA-DxLive™ sessions.
- 7 Spanning three halls, the RSNA 2012 Technical Exhibition featured more than 700 exhibitors.
- 8 New this year, the RSNA Studio invited attendees to videotape congratulatory messages to help RSNA prepare for its 2014-2015 centennial celebration.

Daily Bulletin coverage of RSNA 2012 is available at RSNA.org/bulletin.

Radiologists Need SMART Strategies to Battle Stress

Although radiologists pour a significant amount of energy into every aspect of their careers, few invest the time necessary to manage—or offset—the resulting stress and burnout that has been shown to hit radiology harder than some specialties.

DECLINING REIMBURSEMENT, increased exam volume, growing isolation and the threat of malpractice greatly contribute to the specialty's risk for stress and create a real need to develop a strategy to combat such stressors, according to nationally recognized experts. Along with therapy-based training programs, radiology departments are changing their work environment and embracing new technology offering easy-access to stress-reduction methods, among other strategies.

"Forty to 50 percent of physicians experience burnout nationally," said Amit Sood, M.D., M.Sc., chair of the Mayo Mind Body Initiative and an associate professor of medicine at the Mayo Clinic in Rochester, Minn. That data was reflected in an October 2012 *Archives of Internal Medicine* study demonstrating that nearly half of radiologists reported at least one symptom of burnout. Only emergency medicine, general internal medicine, family medicine and neurology were at equal or greater risk of this problem, results showed.

Dr. Sood was the lead author on the RSNA 2012 presentation, "Stress Management and Resiliency Training (SMART) Program Among Department of Radiology Faculty: A Pilot Randomized Clinical Trial," presented by co-author Brian Gorman, M.B.B.Ch., M.B.A., a consultant in the radiology department at the Mayo Clinic.

"Having observed some of the negative effects of stress in our radiology department, I asked Dr. Sood to lead this project for us," Dr. Gorman said. "His program of training in attention and interpretation seemed well suited to the challenges facing radiologists."

"We want to help radiologists understand that their situation is not unique and it's not their fault," said Dr. Sood, also director of research and practice for Mayo's Complementary and Integrative Medicine Program. "Circumstances combined with the way our minds work makes stress unavoidable in the age we live in."

In the study, 26 radiologists at the Mayo Clinic were randomized in a single-blind, wait-list controlled clinical trial to either the SMART intervention or a wait-list control group for 12 weeks. Radiologists participated in a 90-minute group session in the SMART program with two follow-up phone calls.



Sood



Cronan



Gorman

Researchers focused on building resiliency, or the ability to handle stress and bounce back. Because stress primarily results from the interaction between actual events and our perception of them, Dr. Sood works to retrain the mind—which often goes directly to the negative—to develop perceptions and responses that are positive and empowering.

“We want to help radiologists understand that their situation is not unique and it's not their fault.”

Amit Sood, M.D., M.Sc.

For example, when most of us wake up, we immediately think about the tasks that lie ahead or the enormity of our workload. Instead, Dr. Sood suggests consciously beginning each day with a thought of gratitude—one exercise in what he calls “attention training.”

“Think of five people you are grateful for,” he says. “Picture each person individually and think about the blessings each offers you. Doing this every morning provides an immediate alternative to negative ruminations that often fill our head before we are even out of bed.”

Repeat this exercise multiple times during the day. “When you're waiting for the computer to boot up or your mind is in wandering mode, learn to choose your sensory input,” he said. “The more you do it, the easier it will become.”

He also suggests taking a walk in nature each day if possible. “Look closely at the details of a tree trunk, the petals of a wild flower, listen closely to the sounds,” Dr. Sood said. “Just by being in nature you are engaging a part of the brain associated with joy.”

The Mayo Clinic study yielded promising results. Of the 22 physicians who completed the study, results showed a statistically significant improvement in perceived stress, anxiety, overall quality of life and mindfulness at 12 weeks in the study arm compared to the wait-list control arm.

And radiologists aren't the only beneficiaries. “I believe addressing staff well-being is the best way to serve the needs of patients,” Dr. Gorman said.

Reducing Isolation Can Cut Stress

Because some stressors are a sign of the times—growing isolation due to technological advances, for example—one university is hoping to decrease stress and improve the work environment by taking a page from a simpler era.

At Brown University in Providence, R.I., John Cronan, M.D., spearheaded an effort to minimize isolation by joining two emergency room (ER) radiologists in one room instead of separating them—an arrangement common prior to the advent of PACs. Launched in October 2012, the initiative is extremely popular with radiologists who previously didn't favor the ER rotation, primarily because of the isolation factor, Dr. Cronan said.

The university has also joined its ultrasound, body CT and body MR imaging into one large “body room” where four radiologists and four residents work together—also very popular, said Dr. Cronan, a professor of diagnostic imaging at Brown.

“In the old days, when radiologists were clustered together, you could take a break, ask someone a question or get a consensus on a case and you interacted with your colleagues,” Dr. Cronan said.



Research by Amit Sood, M.D., M.Sc., was the basis for the Mayo Clinic Meditation app that teaches users relaxation and breathing techniques. The app, available for iPhone or iPod Touch and iPad, also features Healing Thoughts that help users stay focused on the positive.

Image courtesy of the Mayo Clinic.

“With PACs, there is no reason to have a central core reading site and the impact of the satellite arrangement is totally isolating.”

Isolation is compounded by what Dr. Cronan calls “volume creep,” in which declining reimbursement rates require radiologists to read more studies each day to maintain their current salary. “In a way you become a hamster on a treadmill,” he said. “You don't realize that reading an extra 20 percent a year is taking a toll. As fast as your read them, more will pop up. And you're in a room by yourself.”

Technology Offers Stress Relief

Although technology is something of a double-edged sword for radiologists, it is also forging new ground in easing stress.

Dr. Sood's research was the basis for the Mayo Clinic startup, mRemedy, which launched the Mayo Clinic Meditation app for iPhone or iPod Touch and iPad in 2010. The app teaches users relaxation and breathing techniques and features Healing Thoughts, or gentle reminders that help users stay focused on the positive that can be shared via e-mail, text, Facebook or Twitter.

On another front, research in the October 2012 issue of the *Journal of Digital Imaging* explores the viability of voice stress analysis, which can be directly implemented through existing speech recognition technology and has been proven to be effective in stress measurement and analysis outside of medicine.

Despite such inroads, Dr. Sood said the demand for stress reduction methods continues to grow. “For every 10 patients referred to us, we are only able to see two,” he said.

Those not able to access his program directly have another option: Dr. Sood's

2010 book, “Train Your Brain...Engage Your Heart...Transform Your Life: A Course in Attention & Interpretation Therapy (AIT),” available for purchase.

Whatever route radiologists take, Dr. Sood suggests choosing a strategy that helps reestablish that necessary connection to all parts of your world—beyond radiology. “It's one thing to be blessed and another thing to remember you've been blessed,” Dr. Sood said. □

WEB EXTRAS

☑ To access an abstract of the *Archives of Internal Medicine* study, go to archinte.jamanetwork.com/article.aspx?articleid=1351351.

☑ To access an abstract of the *Journal of Digital Imaging* study, go to link.springer.com/article/10.1007%2Fs10278-012-9540-0.

☑ Access the Mayo Clinic Meditation app at itunes.apple.com/us/app/mayo-clinic-meditation/id348265081?mt=8.

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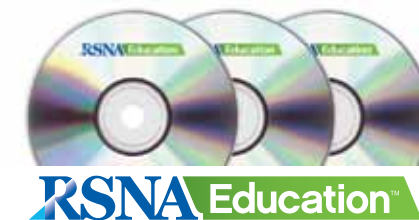
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Education and Funding Opportunities

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Did you know that RSNA members can view the CME credit earned at the annual meeting by logging into the online CME Repository? A member-only benefit, the repository tracks all CME credits earned through RSNA, providing a convenient and safe way to track your CME credits. If you've never used the CME Repository before, find out what you've been missing—go to RSNA.org/CME.aspx and click "CME Repository Tutorial." If you are missing credits or have questions regarding your CME Repository Credit, contact the Education Center at ed-ctr@rsna.org or call 1-800-272-2920.



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Our CD collections are priced at a 25 percent savings as compared to buying each CD individually. This year we've added two new collections:

- **Pediatric Gastrointestinal Collection:** Explore CT and MR imaging strategies for pediatric gastrointestinal concerns, including liver disease, gynecological anomalies, renal disease and other acute gastrointestinal conditions; includes two CDs offering 2.75 *AMA PRA Category 1 Credits*™.
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For more information or to purchase the CD collections, go to RSNA.org/education/search or call the Education Center at 1-800-272-2920.

RSNA Introduction to Research for International Young Academics

THE RSNA COMMITTEE on International Radiology and Education (CIRE) seeks nominations for the 2013

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.

Medical Meetings

January-March 2013

JANUARY 24-27

Society of Nuclear Medicine and Molecular Imaging (SNMMI), 2013 Mid-winter Meeting, New Orleans
• www.snmmi.org

JANUARY 28-FEBRUARY 2

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

FEBRUARY 1-3

Kuwait International Neuroimaging Conference (KINIC), Sheikhha Salwa Al-Sabah Hall, Marina-Hotel, Salmiya, Kuwait
• www.neuroimaging-kw.com

FEBRUARY 7-9

European Society for Radiotherapy & Oncology (ESTRO), 4th International Conference on Innovative Approaches in Head and Neck Oncology, Barcelona, Spain
• www.estro.org

FEBRUARY 8-9

RSNA, ASTRO, Co-sponsored Cancer Imaging and Radiation Therapy Symposium, The Hilton Walt Disney World Resort, Orlando, Fla.

• www.cancerimagingandradiationtherapy.org

FEBRUARY 9-14

International Society for Optics and Photonics (SPIE), Medical Imaging 2013, Disney's Coronado Springs Resort, Lake Buena Vista, Fla.

• www.spie.org

FEBRUARY 21-24

American Society of Spine Radiology (ASSR), Annual Symposium, JW Marriott Camelback Inn Scottsdale Resort & Spa, Ariz.
• www.theassr.org

FEBRUARY 24-MARCH 1

Society of Abdominal Radiology (SAR), Annual Meeting, Grand Wailea Resort, Maui, Hawaii
• www.abdominalradiology.org

MARCH 3-7

Healthcare Information and Management Systems Society (HIMSS), Annual Conference and Exhibition, Ernest N. Morial Convention Center, New Orleans
• www.himssconference.org

MARCH 7-11

The European Society of Radiology (ESR), European Congress of Radiology (ECR), Austria Center Vienna
• www.ecr.org

FIND MORE EVENTS AT
RSNA.org/calendar.aspx

YOUR DONATIONS IN ACTION

By providing the necessary academic time to pursue his research, **Moritz F. Kircher, M.D., Ph.D.**, of Memorial Hospital Research Laboratories, Memorial Sloan-Kettering Cancer Center in New York, says two RSNA grants he received "were absolutely essential for my career development."



Dr. Kircher received the 2008 Philips Medical Systems/RSNA Research Resident Grant for the project, "Noninvasive In Vivo Imaging of Pleiotropic Statin Effects on Monocyte Trafficking to Atherosclerotic Plaques" and the 2011 Bayer Healthcare/RSNA Research Scholar Grant for the project, "A Dual-Modality MRI-SERS Nanoparticle for Molecular Imaging of Brain Tumors."

"The RSNA scholar grant was my first extramural grant as a junior faculty member and resulted in 10 additional successful grant applications in the first year, with a total grant budget now totaling more than \$2.7 million," Dr. Kircher said.

The funding allowed Dr. Kircher to build a research laboratory focusing on the development of novel multimodal nanoparticles for combined pre- and intraoperative imaging of cancer resulting in research published in journals including *Radiology*.

"We have filed two patent applications and are currently planning to create a company around our Raman nanoparticles," Dr. Kircher said.

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Journal Highlights

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

Gastroenteropancreatic Neuroendocrine Tumors: Role of Imaging in Diagnosis and Management

Advances in imaging techniques and the extensive use of endoscopic approaches in clinical practice have led to increased detection of gastroenteropancreatic neuroendocrine tumors (GEP-NETs), a heterogeneous and complex group of neoplasms with a wide spectrum of clinical manifestations.

In a State-of-the-Art article in the January issue of *Radiology* (RSNA.org/Radiology), Dushyant V. Sahani, M.D., of Massachusetts General Hospital in Boston, and colleagues discuss recent improvements in morphologic and functional imaging that have contributed to patient care in terms of detecting and characterizing the primary lesions and in staging and follow-up.

All neuroendocrine tumors have a malignant potential, but tumor grade and cell differentiation information at histopathologic examination is essential to accurately stratify the patient's risk for metastases and recurrence, the authors write.

"Morphologic imaging using contrast-enhanced MDCT and MR imaging are most widely used in initial evaluation, in monitoring response to treatment and in screening high-risk individuals, while functional imaging techniques are useful both for detecting tumors and selecting patients for receptor-targeted therapy," according to the authors.



Coronal reconstruction contrast-enhanced arterial phase CT image of functioning pancreatic NET in a young woman shows pancreatic insulinoma (arrow) with typical imaging features such as small size (9 mm) and avid enhancement.

(*Radiology* 2013;266;1:38-61)
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Radiology

Spectrum of Critical Imaging Findings in Complex Facial Skeletal Trauma

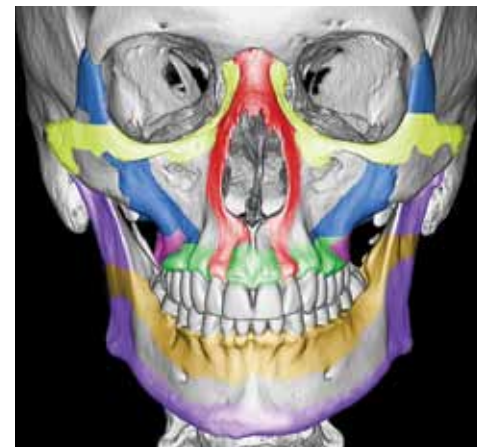
Multidetector CT (MDCT)—which helps accurately identify and characterize fractures and associated complications—is the modality of choice for evaluating facial trauma. In particular, MDCT clearly depicts clinically relevant fractures in the eight osseous struts or buttresses that function as an underlying scaffold for facial structures.

In an article in the January-February issue of *RadioGraphics* (RSNA.org/RadioGraphics), Blair A. Winegar, M.D., of the University of Texas Health Science Center at San Antonio, and colleagues provide an overview of the facial skeletal anatomy and describe the system of facial buttresses—helpful in determining the type of fracture and identifying associated soft-tissue injuries that may require urgent care or surgery. The authors also:

- Describe the spectrum of fractures that may be seen in facial skeletal trauma, emphasizing the buttress most likely to be affected by each fracture pattern.
- Discuss critical features that may be seen at imaging that are likely to have a bearing on the clinical management, surgical repair and outcome of facial trauma.
- Review surgical management of fractures and their associated complications according to the specific facial buttress involved.

"Accurate classification of facial fractures and identification of related complications by the radiologist permit prompt surgical management and an improved clinical outcome of these common traumatic injuries," the authors write. "The facial buttress concept elucidates the structurally meaningful skeletal struts that play a role in facial form and function and helps identify the regions that are likely to require surgical reconstruction."

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



System of facial buttresses. Three-dimensional CT images of an adult skull in frontal orientations with color overlays show the superficial aspects of the horizontal and vertical facial buttresses. The horizontal buttresses are the upper transverse maxillary (yellow), lower transverse maxillary (green), upper transverse mandibular (orange), and lower transverse mandibular (purple) buttresses. The vertical buttresses are the medial maxillary (red), lateral maxillary (blue), posterior maxillary (magenta), and posterior vertical mandibular (purple) buttresses.

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RadioGraphics

Coronary Artery Disease Focus of Radiology Select, Volume 3

The newest volume of *Radiology Select*, Volume 3: Coronary Artery Disease, is now available to RSNA members and non-members for purchase.

The third in the continuing series of selected *Radiology* articles focusing on a specific subspecialty topic, *Radiology Select*, Volume 3, contains 30 *Radiology* articles on topics including basic image formation and artifacts on cardiac MR, radiation reduction methods, advanced cardiac CT and MR imaging techniques, cardiac viability imaging, multimodality imaging and evidence-based clinical applications of diagnostic and prognostic techniques. Volume 1 focused on pulmonary nodules; Volume 2 covered stroke.

The edition is available in print, online and tablet formats. To purchase and for information on *Radiology Select*, visit RSNA.org/RadiologySelect.



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One of the purposes of *RSNA Weekly* is to make RSNA members aware of what their patients, fellow physicians and allied professionals are reading.

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Residents & Fellows Corner

New Journal Position Focuses on Resident, Fellow Education

New *RadioGraphics* Editorial Board Member Jennifer A. Harvey, M.D., said she's

excited to bring her love of teaching to RSNA's education journal. Dr. Harvey will work with *RadioGraphics* Editor Jeffrey S. Klein, M.D., to develop a resident-specific component of the journal and identify previous and future content directed at trainees, particularly from exhibits and courses at the RSNA annual meeting.



Harvey

Dr. Harvey, a professor of radiology and head of the Division of Breast Imaging at the University of Virginia Health System, will also work with the RSNA Resident

and Fellow Committee on initiatives.

"*RadioGraphics* publishes excellent material at the resident/fellow level, but it is probably a little challenging for a resident or fellow to find, unless his or her attending happens to know and mentions a particular article," Dr. Harvey said. "My goal is to identify articles that may be particularly good for trainees and make them easy to find and use."

RadioGraphics is an important educational resource that helps residents and fellows keep pace with rapidly changing practice standards, Dr. Harvey added.

"Books are a great place to start learning the basics, but standards can change faster than books can incorporate the material," she said. "*RadioGraphics* articles are culled from the highest quality education exhibits at RSNA and are often more timely in the communication of new applications or modalities than textbooks. In addition, the articles are often written by people who love to teach, so they make for a good read."

"I believe this new position, with its specific focus on residents and fellows, will help a lot of trainees become more competent and confident in their skills," Dr. Harvey added.

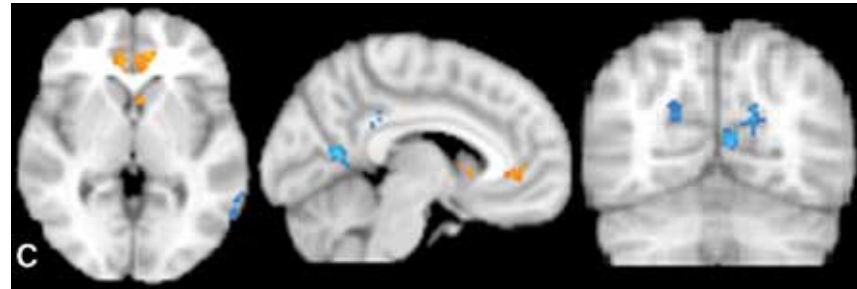
Radiology in Public Focus

Press releases were sent to the medical news media for the following articles appearing in recent issues of *Radiology*.

Default-Mode Network Disruption in Mild Traumatic Brain Injury

ABNORMAL default-mode network (DMN) connectivity patterns found in patients with mild traumatic brain injury (MTBI) may provide insight into how neuronal communication and information integration are disrupted among DMN key structures after mild head injury, new research shows.

In a study comparing 23 patients with MTBI who experienced posttraumatic symptoms shortly after injury with 18 age-matched healthy control subjects, Yongxia Zhou, Ph.D., of the New York University School of Medicine, and colleagues used resting-state functional MR imaging at 3T to characterize the DMN by using independent component analysis. Results showed significantly reduced connectivity in the posterior cingulate cortex (PCC) and increased frontal connectivity around the medial prefrontal cortex (MPFC) nodes in patients with MTBI, compared



Group t test maps of single-subject ICA results and comparison between patients with MTBI and control subjects. The difference maps of comparison of MTBI and control groups show decreased connectivity regions in blue and increased connectivity regions in yellow.

(*Radiology* 2012;265:3:882-892) ©RSNA, 2012. All rights reserved. Printed with permission.

with control subjects. The reduced posterior connectivity correlated clinically with neurocognitive dysfunction while the increased frontal connectivity correlated with posttraumatic symptoms.

“Our results of disrupted DMN synchrony and connectivity in MTBI suggest that resting-state functional MR imaging

can be used as an additional clinical tool for detecting subtle brain injury that is not apparent with conventional MR imaging and for better understanding the underlying disease pathophysiology of postconcussion syndrome (PCS),” the authors write.

Stereoscopic Digital Mammography: Improved Specificity and Reduced Rate of Recall in a Prospective Clinical Trial

COMPARED with digital mammography (DM), stereoscopic DM significantly improves specificity for detection of cancer while maintaining comparable sensitivity, according to new research. The recall rate was significantly reduced with stereoscopic DM compared with DM.

In the study, Carl J. D’Orsi, M.D., of the Emory University School of Medicine and the Winship Cancer Institute at Emory University in Atlanta, and colleagues compared stereoscopic DM to 2D digital mammography in 779 patients at elevated risk of developing breast cancer due to family history. Patients received both exams in a single visit, and two experienced radiologists independently interpreted a total of 1,298 exams. Imaging findings were correlated with results of one-year follow up or biopsy.

Compared with DM, stereoscopic DM showed significantly higher specificity (91.2 percent vs. 87.8 percent) and accuracy (90.9 percent vs. 87.4 percent) for detection of cancer. Sensitivity for detection of cancer was not significantly different for stereoscopic DM (68.4 percent) compared with DM (63.2 percent), results showed.

“Use of stereoscopic DM could decrease the number of recalled findings, while preserving sensitivity for cancer detection and



The complete stereo display system used in the study.

(*Radiology* 2013;266:1:81-88) ©RSNA, 2013. All rights reserved. Printed with permission.

improving overall accuracy,” the authors write. “Further study is warranted to determine the efficacy of stereoscopic DM at a total dose equal to that of DM for breast cancer detection and in a general, non-high-risk population.”

Assessing Radiologist Performance Using Combined Digital Mammography and Breast Tomosynthesis Compared with Digital Mammography Alone: Results of a Multicenter, Multireader Trial

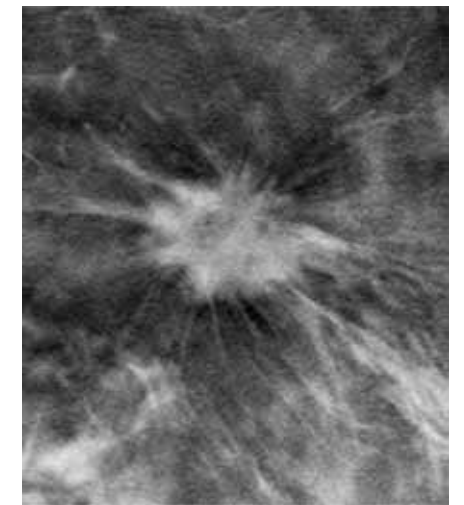
TOMOSYNTHESIS added to digital mammography offers the dual benefit of significantly increased diagnostic accuracy and significantly reduced recall rates for noncancer cases, new research shows.

Elizabeth A. Rafferty, M.D., of Massachusetts General Hospital in Boston, and colleagues obtained mediolateral oblique and craniocaudal digital mammographic and tomosynthesis images of both breasts from 1,192 subjects recruited from five sites. Two enriched reader studies were performed to compare digital mammography with tomosynthesis against digital mammography alone. Study 1 comprised 312 cases (48 cancer cases) with images read by 12 radiologists; study 2 comprised 312 cases (51 cancer cases) read by 15 radiologists.

Diagnostic accuracy for combined tomosynthesis and digital mammog-

raphy was superior to that of digital mammography alone. Two reader studies demonstrated a consistent and statistically significant gain in diagnostic accuracy (6.8 percent and 7.2 percent) when breast tomosynthesis was added to conventional digital mammography. A significant reduction in recall rates for noncancer cases was demonstrated with the addition of breast tomosynthesis for all 12 radiologists in study 1 (mean reduction, 38.6 percent) and all 15 radiologists in study 2 (mean reduction, 17.1 percent).

“Tomosynthesis imaging may improve breast cancer detection while reducing recall rates at mammographic screening, avoiding unnecessary additional testing and decreasing attendant anxiety, inconvenience and cost for women,” according to researchers.



Tomosynthesis images of an invasive ductal carcinoma.

(*Radiology* 2013;266:1:104-113) ©RSNA, 2013. All rights reserved. Printed with permission.

RadiologyInfo.org App Now Available

RadiologyInfo.org, the RSNA/American College of Radiology public information website, recently launched its Patient Safety in Imaging app for tablet devices and iPhones. The app offers information related to numerous safety topics including radiation dose, radiation safety for pediatric patients and CT/MR during pregnancy.

The app contains 18 videos to help illustrate content.

Download the easy-to-navigate app for iPad, iPhone and Android tablets at:

- Google Play: play.google.com/store/apps/details?id=org.rsna.radiologyinfo
- iTunes: itunes.apple.com/us/app/radiologyinfo.org/id572550481?mt=8

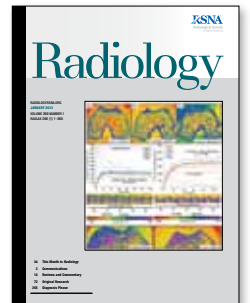


Media Coverage of RSNA

In September and October, media outlets carried 589 RSNA-related news stories. These stories reached an estimated 316 million people.

Print and broadcast coverage included *Manchester Times*, *Imaging Technology News*, *WOR-AM* (New York) and *WGN-AM* (Chicago).

Online coverage included Yahoo! News, MSN, *U.S. News & World Report*, *Doctor's Guide*, *Examiner.com*, *MarketWatch*, *Science Daily*, *Diagnostic Imaging* and *AuntMinnie.com*.



JANUARY OUTREACH ACTIVITIES FOCUS ON UNDERSTANDING RADIOLOGY

In January, RSNA's 60-Second Checkup radio program focuses on increasing the understanding of radiology among the general public and informing listeners of the importance of radiology in modern medicine.

Annual Meeting Watch

News about RSNA 2013

RSNA 2013 Online Abstract Submission Opens mid-January

The online system to submit abstracts for RSNA 2013 will be activated in mid-January. The submission deadline is 12 Noon Central Time on Wednesday, April 10, 2013. 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.



Important Dates for RSNA 2013

April 10:	2013 Call for abstracts deadline 12 Noon CT.
May 8:	Member registration and housing open at 8:30 a.m. CT
June 5:	Non-member registration and housing open at 8:30 a.m. CT
July 10:	Course enrollment opens at 8:30 a.m. CT
October 25:	International deadline to have full conference badge mailed
November 8:	Final housing and discounted registration deadline at 5 p.m. CT
November 27:	Deadline to guarantee a seat for all ticketed courses at 5 p.m. CT
December 1-6:	99th Scientific Assembly & Annual Meeting



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Located under Education Offerings on the Science & Education page, the Ethics and Professionalism Modules and Professionalism Resources pages offer a range of innovative tools and resources designed to help bolster your professionalism IQ.

A series of Web-based vignettes that provide thought-provoking scenarios in an interactive question-and-answer format are a highlight of the Professionalism Page. Designed by the RSNA Professionalism Committee, each vignette illustrates a real-life situation with a professional dilemma, followed by a series of multiple-choice questions that draw attention to important, specific teaching points on professionalism.

Vignette topics include: "Disclosure of Radiologic Error" to a patient and "Partner Relationships." New vignettes will be added soon.

Ethics and Professionalism modules are self-guided and include self-testing features to help users assess comprehension and application of the principles and practices described in the module. The material been approved for AMA PRA Category 1 Credit™ and has been qualified by the American Board of Radiology for SAM credit in fulfillment of MOC requirements.

Module topics include: "Attributes of Professions and Professionalism," "Physician-Physician and Physician-Patient Interaction," "Personal Behavior," "Peer Review" and "Contract Negotiations with Employers."



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Read about the current state of radiology in Brazil, including the latest topics in MR imaging presented by RSNA 2012 researchers, in next month's issue.



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