



Image courtesy of the University of Pittsburgh Medical Center

Pediatric Patients Take Imaging Adventure

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Subspecialization Trend Continues
Embedded Reading Rooms Add Value
Experience Chicago at RSNA 2013

**RSNA 2013 Course Enrollment Underway
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Make Leadership a Priority in Your Career

SEPTEMBER 2013 • VOLUME 23, NUMBER 9

RSNA News™

RSNA MISSION

The RSNA promotes excellence in patient care and healthcare delivery through education, research and technologic innovation.

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RSNA 2013 Faculty Development Workshop
September 18, 2013
Westin O'Hare Hotel
Chicago

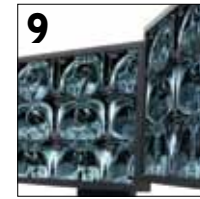
AAARAD 2013 / AAARAD Annual Educational Conference
October 8-9, 2013
Charleston Place
Charleston, S.C.

SCARD Fall Meeting 2013
October 10-12, 2013
Charleston Place Hotel
Charleston, S.C.

Creating and Optimizing the Research Enterprise (CORE) Workshop
October 25-26, 2013
RSNA Headquarters
Oak Brook, Ill.

RSNA 2013
December 1-6, 2013
McCormick Place
Chicago
Registration at RSNA.org/Annual_Meeting.aspx

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ARRS NAMES OFFICERS, AWARDS GOLD MEDALS

Norman J. Beauchamp Jr., M.D., M.H.S., was named the American Roentgen Ray Society (ARRS) 2013-14 president at the society's recent annual meeting in Washington. Dr. Beauchamp is a professor and chair of the Department of Radiology at the University of Washington, Seattle. Dr. Beauchamp is a member of the RSNA Refresher Course Committee and president-elect of the Society of Chairs of Academic Radiology Departments (SCARD).



Beauchamp



Rosado de Christenson



Lewin



King

Other 2013-14 officers are: president-elect, **Melissa Rosado de Christenson, M.D.**, a clinical professor of radiology at St. Luke's Hospital in Kansas City, Mo., and an RSNA 2012 Honored Educator Award recipient; vice-president, **Jonathan S. Lewin, M.D.**, Martin Donner Professor and chair of the Russell H. Morgan Department of Radiology and Radiological Science at The Johns Hopkins University, radiologist-in-chief at Johns Hopkins Hospital with secondary professor appointments in oncology, neurosurgery, and biomedical engineering, and the RSNA 2012 Honored Educator Award recipient; and secretary/treasurer, **Bernard F. King, M.D.**, chair of the Radiology Department at the Mayo Clinic, Rochester, Minn.

ARRS gold medals were awarded to **John R. Haaga, M.D.**, **Satoshi Minoshima, M.D., Ph.D.**, and **Joseph K.T. Lee, M.D.**

Dr. Haaga is a tenured professor and emeritus chair of the Department of Radiology at Case Western Reserve University School of Medicine and University Hospitals Case Medical Center, both in Cleveland.

Dr. Minoshima is a professor and vice-chair in the Department of Radiology at the University of Washington in Seattle.



Haaga



Minoshima



Lee

Dr. Minoshima chairs the Molecular Imaging Abstract Review subcommittees of the RSNA Scientific Program Committee and Education Exhibits Committee and is vice-chair of the RSNA Molecular Imaging Committee.

Dr. Lee is a distinguished professor of radiology and immediate past-chair of the Department of Radiology at the University of North Carolina, Chapel Hill. He served as first vice-president of RSNA in 2007.

ACR Chief Executive Officer Announces Retirement

After years of outstanding leadership and service, the American College of Radiology (ACR) chief executive officer (CEO), **Harvey L. Neiman, M.D.**, has announced that he will transition into retirement over the coming year.

Dr. Neiman has played a vital part in developing many of ACR's core initiatives including the ACR Education Center, the Radiology Leadership Institute®, the ACR Dose Index Registry®, the *Journal of the American College of Radiology*, the American Institute for Radiologic Pathology and ACR Informatics. The Harvey L. Neiman Health Policy Institute™, launched in 2012, honors his many efforts.

Dr. Neiman was awarded the ACR Gold Medal in May and will receive the RSNA Gold Medal in December. He received ACR's inaugural Radiology Leadership Institute's Leadership Luminary Award in 2012.

ACR has launched a search to recruit Dr. Neiman's successor. Candidates can submit an electronic copy of their CV and a cover letter to Stephanie Tomasso, Russell Reynolds Associates, at acr@russellreynolds.com.



Neiman

RSNA 2013 Lectures, Honorees Updated

The RSNA Board of Directors has announced that **Paul M. Harari, M.D.**, will deliver the Annual Oration in Radiation Oncology. The oration will be dedicated to the memory of K. Kian Ang, M.D., Ph.D., who had been announced previously as the oration presenter. Dr. Ang passed away in June (see Page 2).



Harari

Royal Awarded SPR Gold Medal

Stuart A. Royal, M.D., was awarded the Society for Pediatric Radiology (SPR) Gold Medal at its recent annual meeting in San Antonio. Dr. Royal is radiologist-in-chief at The Children's Hospital of Alabama. The award is the society's highest honor.



Royal

Numbers in the News

40

The number of live streaming courses available via the RSNA 2013 Virtual Meeting. [Read more in RSNA.org on Page 28.](#)

99

Drop in the percentage of sedations for pediatric CT procedures at the University of Pittsburgh Medical Center from 2005-2007 since launching a kid-friendly Adventure Series program in the Pediatric Radiology Department. [Read more on Page 5.](#)

1,009

The approximate number of French attendees at RSNA 2012, the highest attendance from a country outside of North America. [The contributions of French radiologists will be highlighted in the RSNA 2013 "France Presents" session detailed on Page 7.](#)

1,352

The number of feet above ground the Skydeck Chicago in Willis Tower stands, offering views up to 60 miles. [Read about this and other Windy City attractions in our annual Chicago Events preview on Page 13.](#)

CORRECTION

The September *RSNA News* article, "RSNA Editorial Fellows Announced," incorrectly stated that 2013 RSNA Eyer Editorial Fellow Mindy M. Horrow, M.D., serves as associate editor of the women's imaging section of *Radiographics*.

Grant Awarded CRS Gold Medal

The Chicago Radiological Society (CRS) presented its Distinguished Service Award, or Gold Medal, to **Thomas H. Grant, D.O.**, professor of radiology at Northwestern University's Feinberg School of Medicine, at its recent annual meeting. The award is the Society's highest honor.

Dr. Grant was recognized for his outstanding leadership in organized medicine on local, state and national levels and his many years of dedicated service to radiology. He is a past-president of the CRS.



Grant



Merryn Young, (left) of RSNA's Membership Department, joined Zachary Ballenger, M.D., at the recent AMA Medical Student Showcase.

RSNA Introduces Radiology to Medical Students

In mid-June, RSNA participated in the annual American Medical Association (AMA) Medical Student Showcase, with representatives of the Membership Department joining Zachary Ballenger, M.D., chief radiology resident at Indiana University, to promote radiology to medicine's future practitioners.

The AMA showcase gives medical students a chance to survey many specialties and opportunities. Dr. Ballenger talked with students interested in radiology and offered them insight as someone who has been in their shoes. Interested students were also welcomed to join RSNA; membership is free for medical students, residents and fellows.

IN MEMORIAM

K. Kian Ang, M.D., Ph.D.

K. Kian Ang, M.D., Ph.D., a radiation oncology researcher responsible for establishing numerous new cancer treatment regimens, particularly for head and neck cancer, died June 19, 2013. He was 63.

Dr. Ang was the Gilbert H. Fletcher Distinguished Memorial Chair and a professor in the Department of Radiation Oncology at The University of Texas MD Anderson Cancer Center in Houston.

Dr. Ang's research focused on developing novel therapy strategies through various in vitro and xenograft models and using specimens collected from patients enrolled into prospective phase II-III trials. His latest studies included the role



of inhibitors of the epidermal growth factor receptor or other signaling pathways in selective enhancement of tumor radiation response in preclinical models. As chair of the Head and Neck Committee of the Radiation Therapy Oncology Group between 1999 and 2012, Dr. Ang introduced several new regimens—such as radiation plus chemotherapy or Cetuximab, resulting from laboratory studies into clinical trials—which established several standard treatments.

Dr. Ang was to deliver the Annual Oration in Radiation Oncology at RSNA 2013. The lecture will now be dedicated to his memory.

RSNA Board of Directors Report

At its June meeting, the RSNA Board of Directors approved the Society's 2013-2014 budget, continued planning for the annual meeting, reviewed recommendations from RSNA committees and began looking ahead to RSNA 2014 and beyond.

RSNA 2013

As plans for RSNA 2013 continue to evolve, the Board finalized remaining presenters and dedications for this year's program.

RSNA will dedicate the Annual Oration in Radiation Oncology to the memory of K. Kian Ang, M.D., Ph.D. Dr. Ang, who was slated to give this year's oration, passed away in June at age 63. (See in Memoriam on Page 2) Paul M. Harari, M.D., will deliver this year's oration on "Beneficial Liaisons: Imaging and Therapy."

In addition to a previously approved dedication, the Board approved the dedication of the 2013 *Annual Meeting Program* to the memory of 2005 RSNA President David H. Hussey, M.D., who passed away earlier this year.

James A. Deye, Ph.D., will deliver the RSNA/AAPM Symposium, "Imaging in Partnership: With Physics and Quantitative Medicine," while previously selected symposium speaker David A. Jaffray, Ph.D., will present, "Imaging in Partnership: With Radiation Therapy."

International, Digital Programs Move Toward Expansion

The Board moved forward with plans to expand two of its popular annual meeting programs. RSNA's annual "Country Presents" program, which spotlights radiologic advancements throughout the world, will expand from one to two countries beginning in 2014. The action furthers RSNA's goal to increase international annual

meeting participation and membership and promote RSNA as an international organization.

Diagnosis Live™, a technology tool that allows participants to use personal digital devices to submit case diagnoses in a game format, will be utilized at RSNA 2013 to support select refresher courses in addition to case diagnosis competition sessions. The system architecture has been redesigned for improved ease of use by faculty. A pilot program is underway in three residency programs that are utilizing Diagnosis Live in didactic training.

Open Access Policy Approved

The Board approved an RSNA model for open access (OA) publishing for journal articles that fall under funder-mandated OA. RSNA's open access policy will enable its journals, *Radiology* and *RadioGraphics*, to maintain a sustainable business model while offering pathways for authors working under OA mandates. Articles in *Radiology* and *RadioGraphics* have been free access after one year since 2004. A full report on RSNA's open access model will appear in the October-November issue of *RSNA News*.

In other news, the Board appointed Ali Guermazi, M.D.,



Ronald L. Arenson, M.D.
Chairman, 2013 RSNA
Board of Directors

Ph.D., as deputy editor of *Radiology*.

Quantitative Imaging Data Warehouse

The Board approved a controlled implementation of the Quantitative Imaging Data Warehouse (QIDW) provided that a number of parameters are followed, including regular updates to the Board, the Quantitative Imaging Biomarkers Alliance (QIBA) and RSNA's Radiology Informatics Committee (RIC). The first steps will

include uploading clinical data generated by QIBA investigators.

Molecular Imaging Committee

The Board approved the following recommendations from RSNA's Molecular Imaging Committee: Working toward mainstreaming molecular imaging content into RSNA's clinical subspecialty programs over a three-year period; a half-day roundtable with representatives from other societies around molecular imaging to be planned in association with RSNA 2014; and a stand-alone Molecular Imaging Workshop on conducting translational research in the summer or fall of 2014.

RSNA Statements Updated

Updated RSNA statements on Colon Cancer Screening, Lung Cancer Screening, Medical Radiation Errors, Radiation Dose, TSA Airport Scanners and Appropriate Utilization of Medical Imaging were approved by the Board.

In other news, the Board authorized support for a 2015 consensus conference "Diagnostic Imaging in the Emergency Department: A Research Agenda to Optimize Utilization," sponsored by the *Academic Emergency Medicine* journal.



The Board approved an open access policy for *Radiology* and *RadioGraphics*.

RONALD L. ARENSON, M.D.
CHAIRMAN, 2013 RSNA BOARD OF
DIRECTORS

My Turn

Why You Need to be Engaged in the EHR Selection Process at Your Hospital

Two important pieces of national legislation stand to exponentially increase the dissemination of information technology (IT) into the healthcare space. The Health Information Technology for Economic and Clinical Health (HITECH) act is intended to foster programs to improve quality, efficiency and safety of healthcare delivery through better use of IT, while meaningful use (MU) incentivizes providers and hospitals to purchase and utilize electronic health records (EHR).

Hospitals throughout the U.S. are now shopping for or deploying an EHR to comply with regulatory requirements and take advantage of the incentive programs administered by the Centers for Medicare and Medicaid Services (CMS) through MU. Even those intrepid early adopters of first-generation EHRs are finding themselves again having to commit time, resources and capital to choosing a replacement EHR to meet the new standards.

It would be short-sighted to think of an EHR as something for clinicians and less relevant to radiologists—nothing could be further from the truth. We sometimes forget who took many of the groundbreaking steps to develop many

of the IT tools we take for granted today. While our clinical colleagues were still laboring with paper during the past two decades, we quietly transformed imaging services to filmless and paperless environments. In the transition, we learned how to manage enormous datasets and embrace the advantages that come from integrating related information systems—most notably, the radiology information system (RIS), PACs and speech recognition software for report generation. Each of these has evolved and has the capacity to serve as the primary workflow manager in a radiology department.

After many years of going through multiple purchasing cycles for IT products, radiologists have also become skilled at navigating the vagaries of IT vendor contractual negotiations and assessing product performance specifications. The selection, staging and deployment of an EHR requires a large team of administrative, provider and IT stakeholders. Radiologists may not fully realize the valuable skills they have to leverage in the complex process of purchasing and configuring an EHR.

Decision support (DS) is an additional software layer that operates in concert

with a computerized provider order entry system to help guide more prudent decisions and better utilization of resources. Again, radiologists are best equipped to assess the DS tools offered by vendors, as well as enhancements that integrate radiology scheduling, billing and resource management. Only the responsible management of skyrocketing healthcare expenditures and evidence-based decision making will be rewarded in the accountable care models for reimbursement.

Imaging will always remain a primary tool in the diagnostic armamentarium, but in the near future only appropriate use and cost-effective imaging will be reimbursed. It is in the best interest of all radiologists to be among the integral players in the EHR selection process.

Adam Flanders, M.D., is a professor of radiology and rehabilitation medicine at Thomas Jefferson University Hospital in Philadelphia and chair of RSNA's Radiology Informatics Committee.



THIS MONTH IN THE RSNA NEWS TABLET

Get more of this month's news with the *RSNA News* Tablet edition, available for download through the App Store and Google Play.

September features video of pediatric patients participating in an Imaging Adventure in the kid-friendly Radiology Department at the University of Pittsburgh Medical Center and video highlights of some of the top Chicago attractions awaiting attendees of RSNA 2013 in December.

Access the *RSNA News* tablet edition on the App Store at itunes.apple.com/us/app/rsna-news/id444083170?mt=8 and Google Play at <https://play.google.com/store/apps/details?id=air.org.rsna.rsna-news&hl=en>.



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Imaging Adventure Program Eases Pediatric Patient Anxiety

After a little girl receives a CT scan, a radiologic technologist tells her to pick out a prize from the treasure chest for doing such a good job holding still during the exam.

ONCE INSIDE the CT suite—aka “Pirate Island”—the girl walks across the “dock” leading to the CT table, or boat, where she lies down to wait for her scan. Because the dock doesn’t lead to the treasure chest, the little girl says it’s a good thing she is part mermaid so she can swim to get her prize! The technologist then proceeds to be “part mermaid” herself, pretending to swim to the treasure chest to claim the prize.

The exam was administered successfully—and without sedation.

This is just one of the real-life success stories unfolding in the radiology department at Children’s Hospital of Pittsburgh at the University of Pittsburgh Medical Center (UPMC) since launching a kid-friendly Adventure Series program using engaging, theme-based room designs, music, videos and aromatherapy along with creative, hands-on staff participation to bring the imaging experience to life for kids.

Introduced on a small scale in 2005, the program is designed to reduce the need to sedate young patients who often feel anxious and have difficulty lying still during imaging procedures, many times affecting the completion of the scan. But sedation creates additional risks and burdens for the patient and family and increases the amount of time needed for each procedure, reducing throughput and creating potential backlogs.

The “distraction therapy” offered by the Adventure Series program has been the perfect antidote, according to UPMC staff.

“Children have vivid imaginations and it is important to clear up their misconceptions during pre-procedural preparation,” said Natalie Sten, M.S., a Certified Child Life Specialist in the hospital’s Department of Radiology. “When we can educate children about the hospital and their bodies in a fun, non-threatening, age-appropriate way, we can really begin to clear up misconceptions and improve compliance.”

ON THE COVER

The Adventure-themed CT suite, or “Pirate Island,” features a “dock” leading to the CT table, or boat, where children wait for a scan.



Sten

Kapsin

Gruber

The results speak for themselves. The number of sedations for pediatric CT procedures fell by 99 percent—from 354 cases to just 4—between 2005 and 2007, even as patient volumes grew, according to January 2013 research funded by the Agency for Healthcare Research and Quality (AHRQ) analyzing the program’s effectiveness.

Adventure-themed Rooms Appeal to Kids

In 2005, UCPM staff created a smaller scale distraction area in one room—the CT exam area at the hospital’s former inpatient facility—after the department began experiencing an increase in requests for sedation during imaging procedures, said Kathleen Kapsin, R.T., M.S., director of the UPMC Pediatric Radiology Department and an author of the AHRQ study.

“The hospital can be a scary place for some children and the imaging equipment can be intimidating,” said Kapsin, who helped secure funding for the program and collaborated with General Electric (GE) to design the rooms. “Children facing tests in a radiology department can experience emotions, including fear, anxiety and helplessness.”

“The biggest change has been decreasing anxiety levels to the point where children are excited to go to the exam room and get their imaging scan.”

Kathleen Kapsin, R.T., M.S.



The Adventure Series program at Children’s Hospital of Pittsburgh is designed to reduce the need to sedate young patients who often feel anxious and have difficulty lying still during imaging procedures, many times affecting the completion of the scan. Above, left: the Jungle Safari Adventure-themed room used for nuclear medicine procedures, and right, the Outer Space-themed room used for MR imaging, are helping to dramatically reduce the number of sedations needed for pediatric CT procedures.

Images courtesy of the University of Pittsburgh Medical Center

When the hospital opened a new facility in 2009, it was the perfect opportunity to launch the Adventure Series program in nine radiology rooms, each reflecting a specific theme appealing to young children.

For example, the radiation oncology room was transformed into Adventure Beach, including a boardwalk and beach-themed walls, an oxygen tank that looks like a scuba tank, a linear accelerator disguised as a sandcastle, and a moving board that looks like a surfboard.

Along with Pirate Island, other themes include Outer Space, used for MR imaging; Camp Cozy for PET and CT scans; Coral City for emergency CT; and Jungle Safari Adventure, for nuclear medicine procedures. Assisting patients throughout this adventure are four distinctive characters: Haley the Hippo, Tillie the Tiger, Marcellus the Monkey and Tara the Toucan.

Themed prizes are also given after scans to provide positive reinforcement and a reward for bravery, Kapsin said. “Attention to detail was taken to create environments that would be perceived as culturally sensitive, gender neutral, and child-friendly for all ages,” she said.

Sedations Drop, Throughput Increases

Program costs varied depending on room size and design. Purchases such as a disco ball, CD and DVD players, stickers and prizes cost just a few hundred dollars while more extensive designs using higher-end, durable, “green” materials averaged \$35,000 to \$45,000 per room. The hospital funded the majority of costs associated with the designs while private donors also provided financial support.

That investment paid off, according to study results.

After the initial 99 percent drop in sedations from 2005 to 2007, department-wide use of sedation dropped by nearly 20 percent in the year after the program was expanded in 2009. Since that time, sedation use has continued to fall, with the department achieving a total sedation reduction of 25.2 percent despite a volume increase of 66 percent between 2009 and 2011, according to the research.

Moreover, staff productivity and CT room throughput has increased. The 99 percent decline in use of sedation helped free up additional capacity, enabling the department to increase CT scan volumes by 15 percent between 2005 and 2007, according to the study. As a result, the 16- to 18-day backlog was eliminated, with outpatient CT scans routinely scheduled for the same or next day. At the new facility, the radiology department experi-

enced a 66 percent jump in patient volume between 2009 and 2011, due in part to the freed-up capacity created by the drop in sedations.

And both parents and staff report higher levels of satisfaction. Staff members say the approach engages patients, improves their coping skills and reduces anxiety levels, leading to much better cooperation during the procedure.

“We are so pleased with the results, we would like to continue the distraction therapy rooms throughout the radiology department,” Kapsin said. “The biggest change has been decreasing anxiety levels to the point where children are excited to go to the exam room and get their imaging scan. Children aren’t clinging to their parent out of fear anymore and it is amazing to see how they really begin to believe they are going on an ‘adventure.’”

Adventure Series Takes Off at Other Hospitals

The success of the Pittsburgh program prompted its implementation at two other institutions. The Children’s National Medical Center in Washington, D.C., uses the Adventure Series in its X-ray rooms while the Ann and Robert H. Lurie Children’s Hospital of Chicago (formerly Children’s Memorial Hospital) implemented the program as part of its move to a new facility in 2012.

Since beginning the program at Lurie a year ago, the Adventure Series has made a “huge difference” and the hospital rarely sedates during CT exams, said Laura Gruber, administrator for medical imaging who brought the program to the facility.

When the new hospital was built, it was important to make sure each room was embellished with distractions, and the Adventure Series made sure that happened, Gruber said. The hospital worked with GE as well as its Children’s Advisory Board—comprised of 12 children with chronic illnesses—to develop and design Lurie’s rooms.

“We listen to the kids...they know best,” Gruber said. “The whole environment is warm and inviting. We see that the kids don’t want to leave the spaces.” □

WEB EXTRAS

For more information on the Adventure Series program in the Pediatric Radiology Department at University of Pittsburgh Medical Center, go to CHP.edu/CHP/Adventure+Rooms.

To view a video of an exam underway in one of the Adventure-themed radiology rooms at UPMC, go to RSNA.org/NewsLandingPage.aspx.

Access the research, “Engaging Room Design and Distraction Techniques Comfort Pediatric Radiology Patients, Leading to Less Need for Sedation, Shorter Wait Times, Higher Satisfaction,” at www.innovations.ahrq.gov/content.aspx?id=3733.

“France Presents” Focuses on Oncologic Imaging

RSNA 2013 attendees may notice a certain “je ne sais quoi” at this year’s annual meeting.

For the past several years, RSNA has highlighted the contributions of a specific country with a session of scientific presentations. This year, the spotlight will fall on France, providing attendees with an opportunity to hear the latest in oncologic imaging from top French radiologists. The “France Presents” program at RSNA 2013 also includes other activities and services focusing on the country’s contributions to the RSNA Annual Meeting.

Nicolas Grenier, M.D., a professor of radiology at the University of Bordeaux, said the Société Française de Radiologie (SFR) was honored to be selected to feature presenters at RSNA 2013. “RSNA has always been a very important meeting for us,” Dr. Grenier said. “The combination of education, which allows attendees to hear about any topic, the new technologies highlighted and the technical exhibitions offered at RSNA are something we really appreciate.



We are proud and happy to have our expertise recognized at this year’s meeting.

“We chose to focus on oncologic imaging because there is so much happening in this field between diagnosis and interventional radiology,” Dr. Grenier continued. “The radiologists we asked to present are internationally recognized and very involved in this issue.”

RSNA Services Aid French Members

This year, RSNA has broadened its international effort beyond panel presentations, adding services that will make it easier for French members to access and navigate the meeting.

RSNA added a dedicated website RSNA.org/FrancePresents and has collaborated with SFR. At SFR’s annual meeting in October in France, RSNA will host a booth offering attendees the chance to join RSNA and register for the annual meeting.

At RSNA 2013, SFR will host a booth in the Technical Exhibition to showcase its contributions to RSNA over the years. French attendees are invited to stop by Booth 1122 in the South Building to learn more about contributions from French radiology to the RSNA Annual Meeting. Attendees can also pick up a ribbon for their name badge in celebration of France Presents.



Grenier

Baron

Donaldson

To help French and all international attendees get the most out of RSNA 2013, the Global Connection booth in RSNA Services offers information on international program. On Sunday, a special discussion on navigating the RSNA meeting will be held in French from 10:00 to 10:30 a.m., including information on everything from scientific sessions to restaurants and getting around Chicago. Finally, RSNA members can meet with exhibitors from France, many of which will be grouped together in an area of the South Building designated as the French Pavilion.

RSNA Ramps up International Focus

RSNA’s increasingly robust international programming reflects the marked growth in the society’s international membership.

“We chose to focus on oncologic imaging because there is so much happening in this field between diagnosis and interventional radiology.”

Nicolas Grenier, M.D.



RSNA 2013 shines the spotlight on France with “France Presents,” providing attendees with an opportunity to hear the latest in oncologic imaging from top French radiologists. *Above:* one of France’s many spectacular landmarks, the Mont Saint-Michel island commune in Normandy.

“Over the past five to 10 years, RSNA has grown by leaps and bounds in terms of international participation,” said Richard L. Baron, M.D., professor of radiology at the University of Chicago and RSNA’s board liaison for international affairs.

According to Dr. Baron, RSNA membership outside North America has grown from 7 to 26 percent in the past 20 years, with more than 13,000 RSNA members living in countries outside North America. The annual meeting draws similarly large numbers of international participants. At RSNA 2012, 37 percent of meeting attendees came from outside North America, while international members contribute more than 50 percent of the abstracts and posters presented at the annual meeting.

“Despite our name, we are very much an international radiological society,” said 2013 RSNA President Sarah S. Donaldson, M.D., the Catharine and Howard Avery Professor of Radiation Oncology at Stanford University School of Medicine in Stanford, Calif.

France Presents—and programs in previous years highlighting Brazil, India, China and other countries—are an important part of RSNA’s international efforts, Dr. Baron said. “This program lets participants from the spotlighted country know that

we appreciate their efforts to further radiological science and clinical practice,” he said. “It provides us with an opportunity to build and maintain our relationships with members from that country.”

Putting France in the spotlight is particularly timely, given the country’s success with universal healthcare, its leadership in cancer care and the size of the French contingent attending RSNA each year. More than 1,000 attendees from France attended RSNA 2012, the highest attendance from a country outside of North America.

France has a special place in the heart and mind of Dr. Donaldson, who as RSNA president selected the country to be highlighted in 2013. As a young physician, Dr. Donaldson spent a memorable year in training at the Institut Gustave Roussy in Villejuif, France—an experience that has left her eternally grateful to the country for the lessons, both professional and personal, she learned while there.

“My time in France was pivotal in shaping my career in radiation oncology and it was also a tremendous personal and character-building experience,” she said. “It’s extremely important to me to welcome our French contingent and to highlight the expertise of the country.” □

WEB EXTRAS

For more information on France Presents, visit RSNA’s new dedicated website at RSNA.org/FrancePresents.

FRANCE PRESENTS: ONCOLOGIC IMAGING

Monday, Dec. 2, 10:30 a.m. - 12 p.m.

- Opening Remarks: 2013 RSNA President Sarah S. Donaldson, M.D., Jean-Pierre Pruvo, M.D., Ph.D.
- Whole-body Diffusion in Hematology Malignancies, Alain E. Luciani, M.D.
- Beyond Morphology: Molecular Imaging for Biopsy Guidance in Oncology, Eric De Kerviler, M.D.
- Intra-arterial Therapy of Liver Malignancies—Where We Stand and Future Trends, Thierry De Baere, M.D.
- Colorectal Liver Metastases: Role of the Radiologist in the Multidisciplinary Team, Valérie Vilgrain, M.D.
- Closing Remarks: Richard L. Baron, M.D., Dr. Pruvo, Nicolas Grenier, M.D.

Radiologists Face Challenges in Era of Subspecialization

Multispecialty fellowships offer a promising avenue for general radiologists looking to remain relevant as the profession continues its march toward subspecialization, experts say. On the plus side, the development of multispecialty radiologists could also help radiology survive as a distinct entity.

RADIOLOGY SUBSPECIALIZATION began and accelerated amid the development of new imaging modalities and a focus on efficiency and reduced error rates. Today, most progressive radiology groups practice as an integrated group of subspecialty radiologists, according to Richard Strax, M.D., an interventional radiologist and associate professor at Baylor College of Medicine in Houston.

"Subspecialization has been a general trend in all of medicine and the desire to become subspecialized is compounded in a healthcare system where subspecialists are more generously rewarded for their work," Dr. Strax said.

Results from a group of surveys published in the March 2009 issue of the *Journal of the American College of Radiology (JACR)* showed that more than 90 percent of radiologists go on to earn a fellowship in areas like neuroradiology or pediatric imaging. In the same survey, 62 percent of radiologists reported recent expansion of subspecialization within their practices. While fellowship participation is not an exact measure of subspecialization, experts consider it the most direct indicator.

Competition and academic interests were among the motivating factors behind radiologist subspecialization, while economics was a key external driver of the trend. "Subspecialization is cost-effective," said Benjamin Strong, M.D., chief medical officer at Virtual Radiologic (vRad), a teleradiology company in Eden Prairie, Minn. "A subspecialist radiologist is able to read a specialty exam more accurately and efficiently, giving the patient a more accurate interpretation and the practice a faster throughput."

The rapid growth of teleradiology companies like vRad over the past decade has increased the need for subspecialists. When Dr. Strong started at vRad in 2004, the company had only 32 radiologists and about 200 clients. Today, vRad employs more than 400 radiologists and has more than 2,000 client sites, making it well suited to exploit the ability of larger companies to reduce costs and improve efficiency.

"As you develop economies of scale, you can put together a number of subspecialties that can cover the work," Dr. Strax said. "For complicated or obscure problems, you are able to find someone with training in that area."



Strax

Strong

For instance, Dr. Strong, who earned a fellowship in musculoskeletal MR imaging, has 50 state licenses and more than 750 hospital credentials. "That adds up to quite a few MRIs that I can read, including some very challenging cases," he said.

"Distinction will Prevent Extinction"

The growth of teleradiology is one reason that some radiology experts see a fully subspecialized radiology model as the way of the future. In his 2008 American College of Radiology (ACR) Presidential Address, Barry D. Pressman, M.D., touted subspecialization as a way to help radiology remain viable as a specialty. "Distinction will prevent extinction," he said.

“It's easy to be a specialist if you're focused on one system, but we are imaging the whole body!”

Richard Strax, M.D.



Experts tout the growing trend of subspecialization as a way to help radiology remain viable as a specialty. Above: teleradiology is one reason that some radiology experts see a fully subspecialized radiology model as the way of the future.

A year later, British radiologist Nicola Strickland, M.D., stood before the Management in Radiology Congress in Budapest and asserted that "the generalist is dead. Long live the specialist."

More recently, Jonathan Breslau, M.D., a member of an ACR task force on subspecialization, concluded that the phenomenon would "allow for the full benefit of economies of scale to get the work done faster and more accurately, with the highest quality supervision of the imaging and consultation with ordering physicians."

But Dr. Strax, who served on the same task force, noted that the general radiologist has not vanished despite the advantages offered by the subspecialist model. Drs. Breslau and Strax provide a point-counterpoint discussion on the issue in the August 2012 issue of *JACR*. (See sidebar.)

"It's easy to be a specialist if you're focused on one system, but we are imaging the whole body," Dr. Strax said. "When imaging the abdomen and pelvis, you're looking at the vascular system, the gastrointestinal tract, the spine, the reproductive organs—what is the subspecialty there? Each system can have its own subspecialists."

Indeed, an ACR study found that only half of interventional radiologists spend 70 percent or more of their time doing interventional radiology, and breast imaging specialists interpret only 30 percent of all mammograms.

"In most radiology practices, people do work outside of their subspecialty," Dr. Strax said. "There are many times in my department when I'm working outside of the vascular/interventional area, such as reading chest X-rays and CT scans of the abdomen."

"When you carve out all the specialty work, it still makes up just a minority of radiologic studies," added Dr. Strong. "There is still a role for the general radiologist."

The Multispecialty Radiologist: The Wave of the Future?

Future parameters of that role remain to be seen. The ACR task force suggested that general radiologists may need additional training beyond residency to bring added value to a facility or company.

One popular proposal is the development of a multispecialty radiologist with training in various subspecialties.

"Almost every radiologist does a residency of four to five years and a fellowship of one to two years in a subspecialty," Dr. Strax said. "A multispecialty radiologist could do a two-year fellowship after residency, spending six months in each of four areas or eight months in each of three areas."

"I could see a setting in which a multispecialty radiologist would apply," Dr. Strong said. "They would come to a practice with a greater breadth of knowledge than a single subspecialist who may have lost skills in other areas."

The best-case scenario for radiology is one in which subspecialists work closely with multispecialists, Dr. Strax said.

"You can't cover medicine only with subspecialists because you're going to get imaging studies that breach multiple specialties," he said. "You'll need multispecialty radiologists to do much of the work that falls between the cracks of specialties."

A multispecialty radiologist would also be useful in filling scheduling voids, according to Dr. Strax. Small and rural practices in particular would need individuals with the flexibility to cover multiple modalities and consult on patients with many diseases, he added.

"Putting subspecialists and multispecialty radiologists together is the way to keep the specialty coherent," he said. "As radiology organizations and groups become larger, they'll be more self-sufficient and better able to handle the diverse demands in a way that will hold the profession together." □

WEB EXTRAS

Access the point-counterpoint articles on Generalization vs. Subspecialization by Jonathan Breslau, M.D., and Richard Strax, M.D., in the *Journal of the American College of Radiology (JACR)* at JACR.org/content/point-counterpoint.

Access an abstract of the study, "Factors Influencing Subspecialty Choice Among Radiology Residents: A Case Study of Pediatric Radiology," in the September 2009 issue of *JACR* at JACR.org/article/S1546-1440%2809%2900232-4/abstract.

Embedded Reading Rooms Improve Communication with Clinicians

Communication improves and radiologists benefit from a higher profile with referring clinicians in healthcare facilities equipped with embedded reading rooms, new research shows.

RSNA
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FOUNDATION

In the era of PACS, fewer opportunities exist for radiologists to interact face to face with their clinician colleagues. To that end, some healthcare facilities have embedded radiology reading rooms in clinical areas in hopes of improving direct communication between radiologists and referring physicians.

Allison Tillack, Ph.D., a fourth-year medical student at the University of California at San Francisco, and colleagues studied a large, tertiary care U.S. academic hospital to determine whether embedded radiology reading rooms are associated with increased rates of direct communication between radiologists and clinicians. Dr. Tillack's research was funded by a 2011 Fujifilm Medical Systems/RSNA Research Medical Student Grant and later published in the May 2013 edition of the *Journal of the American College of Radiology*.

Dr. Tillack found a "highly significant positive correlation" between the location of the reading room and communication between clinicians and radiologists. Embedded reading rooms offer the best opportunity to maximize the correlation. Data showed more visits to embedded reading rooms by referring clinicians than to reading rooms located in another part of the facility.

"This could be the first quantitative study that shows radiologists integrate better with the remainder of our clinical colleagues if we are in a reading room that is embedded in their clinical service," said James Borgstede, M.D., vice-chair of the radiology department at the University of Colorado at Denver and Dr. Tillack's scientific advisor and co-author of the study. Dr. Borgstede chairs the RSNA Research & Education (R&E) Foundation Board of Trustees.

"The type, quality and length of communication all seem to be more appropriate when radiologists are in close contact geographically with their clinical colleagues," Dr. Borgstede added.

Embedded Reading Rooms Draw More Visits

The facility in the study featured two embedded reading rooms (breast and musculoskeletal) and two non-embedded reading rooms (body and neuroradiologic imaging) located in the hospital's basement.

Dr. Tillack gathered data on frequency, form (telephone, in-person visits and via Veriphy, a Joint Commission-recommended system for communicating critical test results), duration and general pur-

pose of communications. Over eight weeks, she examined communications and collected 175 incidents, 100 of which came from embedded reading rooms.

In-person visits to the embedded breast and musculoskeletal reading rooms dramatically outpaced those to the non-embedded body and neuroradiology reading rooms (46 percent versus 7 percent), while non-embedded reading rooms had a higher rate of Veriphy use than embedded reading rooms (40 percent versus 7 percent).

"This was a highly significant difference, but we couldn't say for sure that it was caused only by the location difference," Dr. Tillack said. "It's certainly one of the hypotheses, and I think a very likely one, but we had to factor in the nature of different reading room work as well as culture. We couldn't say for sure that this wasn't just a particularly pro-interactive group of orthopedic surgeons or musculoskeletal radiologists, for instance."

Dr. Tillack noted that the musculoskeletal reading room was located directly across the hall from the orthopedic surgery dictation room while the Rheumatology Department was just down the hall, making in-person visits very convenient. The reading room had no doors and clinicians were often seen stopping by to discuss cases.

“Orthopedic surgeons we talked to were excited about the convenience and said it was great to be able to drop by and look at a case with the radiologist without having to go downstairs.”

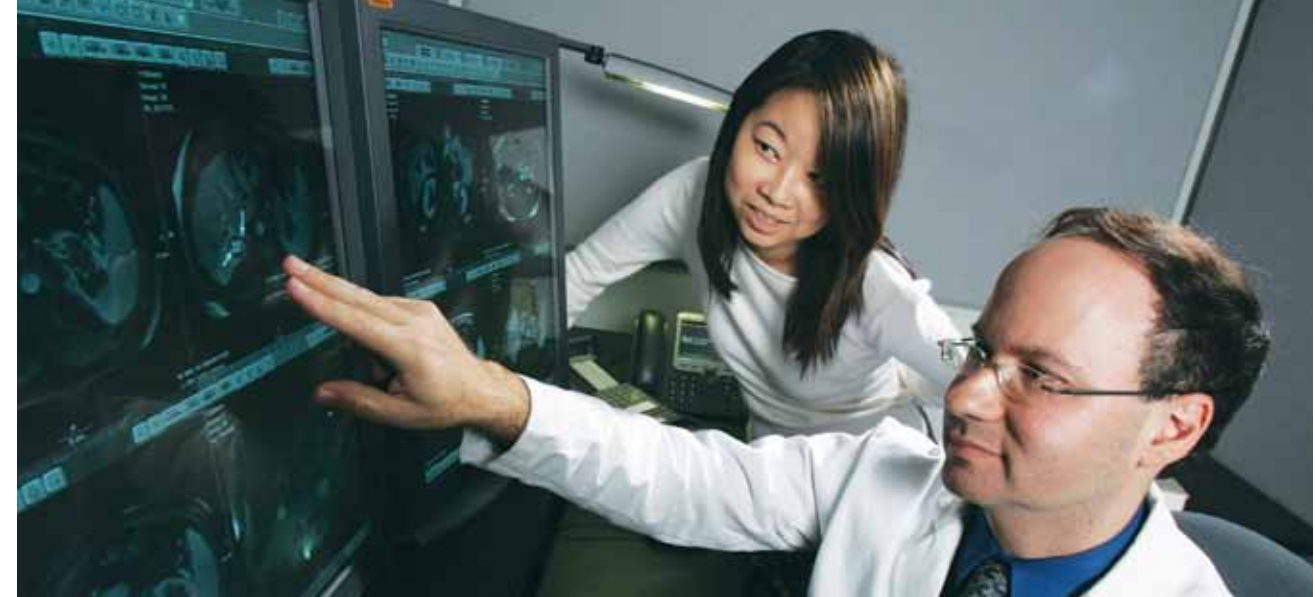
Allison Tillack, Ph.D.



Tillack



Borgstede



Healthcare facilities equipped with embedded reading rooms experience increased rates of direct communication between radiologists and clinicians, according to new research funded by an RSNA Research Medical Student Grant.

"It was a very collegial, friendly atmosphere," Dr. Tillack said. "Orthopedic surgeons we talked to were excited about the convenience and said it was great to be able to drop by and look at a case with the radiologist without having to go downstairs."

The telephone was the most common form of communication regardless of the reading room locations. Also, there was no significant difference in the number of calls to embedded reading rooms (47 percent) and non-embedded ones (53 percent).

Study Demonstrates Paradigm Shift

Dr. Tillack acknowledged that application of the study does have limitations, especially regarding multispecialty clinics and/or private practices. In multispecialty situations it becomes problematic to decide where the reading room would be embedded. In the case of abdominal radiologists, for example, it is difficult to decide if they should embed with gastroenterologists, nephrologists or urologists.

While the researchers admit the study was limited and said they hope to do further research in the area, they maintain the embed-

ding provides value for those looking to improve communications and raise the profile of radiologists within their work environments.

"The important thing is that the concept is out there," Dr. Borgstede said. "We're in a different era than a generation ago when clinicians came to radiologists to look at film studies that could only be viewed in one place at a time. Now that's not true. It's a new paradigm and if they aren't going to come to us, we have to go to them."

Dr. Tillack credited the RSNA for awarding her the grant that made the study possible. "The RSNA grant was the inspiration for the project and allowed me to make the research happen," she said. "Learning to develop a very targeted question, work it through, do the analysis and take it to publication is really a valuable and fantastic experience. Making those connections with my mentor and other people who helped in the research has also been so valuable." □

GRANTS IN ACTION

NAME:

Allison Tillack, Ph.D.

GRANT RECEIVED:

Fujifilm Medical Systems/RSNA Medical Student Grant

STUDY:

"An Evaluation of the Impact of Clinically Embedded Reading Rooms on Radiologist-Clinician Communication"

CAREER IMPACT:

"This grant has been an important step in working towards the goal of becoming an academic radiologist active in research," Dr. Tillack said. "The experience I have gained in designing and implementing this project will be useful for the rest of my career. The excellent guidance I received while working on this project has enabled me not only to gain a better appreciation for the intricacies of careful data collection and analysis, but also provided me with outstanding role models for becoming both a researcher and a practicing radiologist."

CLINICAL IMPLICATION:

"This study indicates that locating radiology reading rooms in clinical areas results in more face-to-face interactions between radiologists and referring providers. Fostering better relationships and improved communication among healthcare professionals translates into improvements in patient care. Medical imaging has become a critical component of modern healthcare, and radiologists possess the skills, knowledge and expertise that ensure these powerful imaging technologies are used safely and appropriately."

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

EXPLORE CHICAGO DURING RSNA 2013

Don't let the chance to explore Chicago pass you by at RSNA 2013. Peruse our annual roster of Chicago events for everything from world-class museums and restaurants to dazzling architecture and artwork and much more. We also include Our Insider's Guide to Chicago's Best Deals, featuring the many free activities available in the Windy City.

MUSEUMS

Art Institute of Chicago

Renowned for its Impressionist and Post-Impressionist collection as well as its Depression-era American paintings, the Art Institute boasts a 260,000 piece-collection representing 5,000 years of art from around the globe. Don't miss the Modern Wing, which exhibits early 20th Century European Art.

Special exhibitions to open in December will be the first Chicago display of Artemisia Gentileschi's "Judith Slaying Holofernes" on loan from the Uffizi Gallery. "Art and Appetite: American Painting, Culture, and Cuisine" examines the portrayal of food in 18th to 20th century artwork.

- 111 S. Michigan Ave.
1-877-307-4242
www.artic.edu
www.ticketmaster.com



RSNA TOURS AND EVENTS

RSNA is sponsoring a series of tours and events during RSNA 2013. The RSNA Tours & Events brochure is available at RSNA.org/Tours_and_Events.aspx.

Look for the **RSNA Tour** icon next to event listings in this article, signifying that a pre-arranged RSNA package is available. Enroll for tours and events online when registering for the annual meeting or while adding courses.

Field Museum of Natural History

Upon entering, visitors will encounter Sue, the world's largest and most complete Tyrannosaurus Rex fossil. The natural history museum has something for everyone, from taxidermal animals and dioramas to Egyptian mummies and a memorable dinosaur exhibit. Stop by this year's special exhibits, "Creatures of Light: Nature's Bioluminescence," and "Opening the Vaults: Wonders of the 1893 World's Fair."

- 1400 S. Lake Shore Dr.
1-312-922-9410
www.fieldmuseum.org

Smith Museum of Stained Glass Windows

When visiting Navy Pier, enjoy the largest collection of Tiffany stained glass windows, which are displayed along the interior public walkway at the east end of the pier building. The collection contains more than 150 stained glass works by artists such as Louis Comfort Tiffany and Frank Lloyd Wright.

- 600 E. Grand Ave. (Navy Pier)
1-312-595-7437
www.navy pier.com

Museum of Contemporary Art

The largest museum of contemporary art in the world, the MCA displays a variety of Post-World War II art including paintings, sculptures, photographs and video installations. In December, MCA will feature a special exhibit on the work of Paul Sietsema and a second exhibition titled "The Way of the Shovel: Art as Archaeology."

- 220 E. Chicago Ave.
1-312-280-2660
www.mcachicago.org

Shedd Aquarium

The world's largest indoor marine animal facility offers an array of exhibits from adorable sea otters to vicious piranhas and allows visitors the chance to pet a sea star. The popular dolphin and Beluga whale show takes place in the Oceanarium amphitheater and sharks can be found in the Wild Reef. Enjoy the new, high-tech, 4D Experience in the Phelps Auditorium while the "Jellies" exhibit demonstrates how sea jellies hunt and grow exponentially.

- 1200 S. Lake Shore Dr.
1-312-939-2438
www.sheddaquarium.org

Adler Planetarium

A National Historic Landmark, the Adler opened in 1930 and is oldest planetarium in the Western Hemisphere. A variety of astronomical adventures await guests, from visiting the restored Gemini 12 spacecraft to landing the Lunar Module simulator on the face of the moon. Planetarium shows play continuously throughout the day in three theaters.

- 1300 S. Lake Shore Dr.
1-312-922-7827
www.adlerplanetarium.org

Peggy Notebaert Nature Museum

The Notebaert welcomes children of all ages to explore nature in unusual and innovative ways. Permanent exhibits include The Birds of Chicago, the Birth of Chocolate, Extreme Green House, Istock Family Look-in Animal Lab, Judy Istock Butterfly Haven, Mysteries of the Marsh, Nature's LunchBox, River-Works and the Wilderness Walk. Visitors seven years of age and younger are invited to enjoy the Hands-on Habitat.

- 2430 N. Cannon Dr.
1-773-755-5100
www.naturemuseum.org

Museum of Science and Industry

The only remaining building from the 1893 World's Columbian Exposition, the museum is packed with one-of-a-kind exhibits: one of two U-505 German submarines captured during World War II; a realistic coal mine; the multilevel Science Storms exhibit, complete with a vapor tornado and tsunami tank; and the Henry Crown Space Center featuring Apollo 8. The museum celebrates its 80th anniversary by unearthing some of its hidden treasures with 80 at 80. Annual seasonal exhibits include the Christmas Around the World and Holidays of Light.

- 57th St. and Lake Shore Dr.
1-773-684-1414
www.msichicago.org

Chicago History Museum

This collection dates from 1856, approximately 25 years after the founding of Chicago, and was started with the intent to help to research and interpret the city's history. The museum helps bring to life many aspects of Chicago's past, including the Great Chicago Fire of 1871, the rise of Chicago's Chinatown and the life and times of Abraham Lincoln. Details on neighborhood tours, lectures, performances and events are available on the website.

- 1601 N. Clark St.
1-312-642-4600
www.chicagohs.org

DuSable Museum of African American History

A special museum dedicated to collecting and preserving the history of African Americans, this nearly 50-year-old institution is the first of its kind in the U.S. It features exhibits on salient historical topics



Astronomical adventures await guests of the Adler Planetarium.

Image courtesy of the Adler Planetarium.

such as civil rights as well as work by African-American artists.

- 740 East 56th Pl.
1-773-947-0600
www.dusablemuseum.org

Lincoln Park Conservatory

Built in the late 1800s, the conservatory originally provided visitors a chance to view exotic plants and grew most of the specialized horticulture for Chicago's parks. Today, visitors can stroll among the four display houses: Fern Room, Orchid House, Palm House and Show House, where the Christmas show is hosted.

- 2391 N. Stockton Dr.
1-312-742-7736
www.chicagoparkdistrict.com/index.cfm

Garfield Park Conservatory

Enjoy the holiday flower show in one of the world's largest gardens under glass, built at the turn of the last century. The conservatory is famous for its prairie waterfall set among stone and water landscapes.

- 300 N. Central Park Ave.
1-312-746-5100
www.garfield-conservatory.org

Millennium Park Ice Rink

The McCormick Tribune Plaza & Ice Rink is located just off Michigan Avenue in the shadow of the Cloud Gate sculpture, affectionately called "The Bean." The Park

Grill's windows look out on the rink. Skating is free and skate rental is available.

- East side of Michigan Avenue between Washington and Madison streets
• 1-312-742-1168
www.millenniumpark.org

Daley Bicentennial Plaza Ice Rink

Located across Millennium Park's snake-like BP Pedestrian Bridge is a secluded ice rink with far fewer skaters than the well-known Millennium Park rink. The facility offers free skating, skate rental and a warming building. South side of East Randolph Street between Columbus Drive and Lake Shore Drive.

- 1-312-742-7650
www.chicagoparkdistrict.com

THEATER

"Appropriate"

A father's death brings together three siblings to examine the family's past and discover new surprises.

- Victory Gardens Biograph Theater
• 2433 N. Lincoln Ave.
1-773-871-3000
www.victorygardens.org

Continued on next page

Continued from previous page

"An Illiad"

This award-winning, one-man performance considers the toll of war on humanity.

Court Theatre

- 5535 S. Ellis Ave.
1-773-753-4472
www.courttheatre.org

"Late Nite Catechism"

This witty performance examining the Baby Boomer parochial school experience is a longtime favorite among those taught by nuns and also serves as a wry introduction to Catholicism.

- Royal George Theatre
1641 N. Halsted St.
1-312-988-9000
www.ticketmaster.com

"The Merry Wives of Windsor"

The tables are turned on Falstaff as he attempts to charm two women in this popular comedy.

- Chicago Shakespeare Theater
800 E. Grand Ave.
1-312-595-5600
www.chicagoshakes.com

The Second City

Second City is the comedic training ground for many of today's favorite comedians. Shows are scheduled on both the Main Stage and the smaller ETC stage, combining short comedy sketches and improvisation. Cocktails and food are served during performances.

- Main Stage and ETC stage
1616 N. Wells St.

1-312-337-3992
www.secondcity.com

Tommy Gun's Garage

This interactive dinner theatre set in the Roaring Twenties features Prohibition-era gangsters and flappers in a musical comedy show.

- Tommy Gun's Garage
2114 S. Wabash St.
1-312-225-0273
www.tommygunsbar.com

Up Comedy Club

Catch the best of stand-up comedy or see an improv show created by Second City producers at the new Up Comedy Club. Cocktails and food are served during the performance.

- Piper's Alley
230 W. North Ave., Third Floor
1-312-662-4562
www.upcomedyclub.com

"Wasteland"

An American prisoner in Vietnam begins a dialogue with an unknown voice through the wall of his cell.

- TimeLine Theatre
615 W. Wellington Ave.
1-773-281-8463
www.timelinetheatre.com

"Wicked"

The beloved Grammy- and Tony-award winning musical explains how two young girls in Oz took two very different paths.

- Ford Oriental Theatre
24 W. Randolph St.
312-977-1700
www.ticketmaster.com

Zanies Comedy Night Club

Chicago's favorite for stand-up comedy. Enjoy comedians from Comedy Central, HBO and the Tonight Show in Zanies' intimate atmosphere.

- Zanies
1548 N. Wells St.
1-312-337-4027
www.chicago.zanies.com

FAMILY PERFORMANCES

"A Christmas Carol"

For more than 35 years, the Goodman Theatre has presented this timeless Dickens classic during the holiday season.

- Goodman Theatre
170 N. Dearborn St.
1-312-443-3800
www.goodmantheatre.org

The Blue Man Group

A vibrant event blending flashing lights, comedy, loud music—and yes, blue men—for one unique experience. Shows are unique to each city. Children under five not admitted.

- Briar Street Theatre
3133 N. Halsted St.
1-773-348-4000
www.blue.com
www.ticketmaster.com

"Rudolph the Red-Nosed Reindeer"

See the classic stop-action television special brought to life on stage by the Emerald City Theatre.

- Broadway in Chicago's Broadway Playhouse at Water Tower Place
175 E. Chestnut St,
Chicago, IL 60611
1-773-935-7100
www.emeraldcitytheatre.com

SYMPHONY AND OPERA

Lyric Opera of Chicago

The historic and renovated art-deco Civic Opera House is the perfect setting to see the renowned Lyric Opera of Chicago. Free lectures are offered one hour before every performance.

"La Traviata"

Nov. 27 & 30 and Dec. 3, 6, 9 & 12
A new production of Verdi's classic romantic tragedy. Director: Arin Arbus; Conductor: Massimo Zanetti with Marina Rebeka, Joseph Calleja and Quinn Kelsey.

"Parsifal"

Nov. 26 & 29
Wagner's five-hour exploration of the battle waged between temptation and salvation. Director: John Caird; Conductor: Sir Andrew Davis with Paul Groves, Daveda Karanas, Thomas Hampson and Kwangchul Youn.

- 20 N. Wacker Dr.
1-312-332-2244 x5600
www.lyricopera.org

Chicago Symphony Orchestra

Special Event: Vienna Boys Choir
Nov. 30

A Chanticleer Christmas

Dec. 4 & 5
Grammy-award winning a capella group. Note: This performance will be at Fourth Presbyterian Church.

Berlioz Symphonie Fantastique

Dec. 5, 7, 10
Conductor: Stephane Deneve
Program: Weber: The Ruler of the Spirits Overture; Shostakovich: Violin Concerto No. 1; Berlioz: Symphonie fantastique
• 220 S. Michigan Ave.
1-312-294-3000
www.cso.org



The Lincoln Park Zoo offers fun for the whole family.

Image courtesy of the Lincoln Park Zoo.

FAMILY ACTIVITIES

American Girl Place

Beyond the shopping frenzy the American Girl experience can include dining, book signings, cooking classes and the popular doll hair salon.

- Water Tower Place
• 835 N. Michigan Ave.
1-877-247-5223
www.americangirl.com

Chicago Children's Museum

Children of every age experience interactive learning through 15 permanent hands-on exhibits that range from dinosaurs to art, water play to fire safety, climbing to commerce. Daily activities offer even more focused learning opportunities.

- 700 E. Grand Ave. (Navy Pier)
1-312-464-7732
www.chicildrensmuseum.org

John Hancock Observatory

This observatory experience on the 94th floor begins with a ride on the fastest elevator in North America and includes an open-air skywalk, free multimedia sky tour and the first interactive telescopes in the U.S.

- 875 N. Michigan Ave.
1-888-875-VIEW

Navy Pier IMAX Theatre

The Navy Pier IMAX theatre will announce its complete holiday film schedule in late autumn.

- 700 E. Grand Ave.
1-312-595-5MAX
www.imax.com/chicago

Lincoln Park Zoo

One of the nation's last free zoos, and one of its oldest, the Lincoln Park Zoo is conveniently located in nearby Lincoln Park. Walk through the zoo at night with the holiday-themed ZooLights festival on Friday through Sunday evenings.

- 2200 N. Cannon Dr.
1-312-742-2000
www.lpzoo.com

Skydeck Chicago at Willis Tower

At 1,353 feet above the ground, Skydeck Chicago in Willis Tower, the tallest building in the Western Hemisphere, offers views up to 60 miles. If you dare, venture out onto The Ledge, four glass-enclosed—and glass-bottomed—boxes outside the building.

- 233 S. Wacker Dr.
Enter Skydeck on Jackson Boulevard
312-875-9447



"A Christmas Carol" returns to the Goodman Theatre.

Design by Kelly Rickert, Courtesy of Goodman Theatre.

Continued on next page

RESEARCH & EDUCATION FOUNDATION DONORS



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Visionaries in Practice

A giving program for private practices and academic departments

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Nashville, Tenn.



Foundation Radiology Group,
Pittsburgh



Jefferson Radiology,
Hartford, Conn.



Raleigh Radiology,
Raleigh, N.C.



Riverside Radiology and Interventional Associates,
Columbus, Ohio



University Radiology,
East Brunswick, N.J.



Wake Radiology Consultants, P.A.,
Raleigh, N.C.

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Continued on next page



THE INSIDER'S GUIDE TO CHICAGO'S BEST DEALS

Many Chicago museums offer free admission on select days. With some smart scheduling, you can visit many of the city's top attractions for little to no money. Here is a rundown of some of the best deals in town:

Free as indicated:

- **Museum of Contemporary Art**
220 E. Chicago Ave. (Tuesday for Illinois residents)
- **Charnley-Persky House Museum**
1365 N. Astor St. (Wednesday)
- **Clarke House Museum**
1827 S. Indiana Ave. (Free tours on Wednesday)
- **DuSable Museum of African American History**
740 E. 57th Pl. (Sunday)
- **Glessner House Museum**
1800 S. Prairie Ave. (Free tours on Wednesday)
- **Art Institute of Chicago**
11 S. Michigan Ave. (Thursday, 5–8 p.m. for Illinois residents)
- **Chicago Children's Museum at Navy Pier**
700 E. Grand Ave. (Thursday, 5–8 p.m. for all and first Sunday of each month for ages 15 and younger)
- **Notebaert Nature Museum**
2430 N. Cannon Dr. (Thursday for Illinois residents)
- **Shedd Aquarium**
1200 S. Lake Shore Dr., December 7-8, one free mini-pass admission to those who present a valid Bank of America/Merrill Lynch ATM, credit or debit card, along with photo ID.

Always free:

- **Chicago ArchiCenter**
224 S. Michigan Ave.
- **Chicago Cultural Center**
78 E. Washington St.
- **City Gallery at the Historic Water Tower**
806 N. Michigan Ave.
- **Lincoln Park Conservatory**
2391 N. Stockton Dr.
- **Lincoln Park Zoo**
2200 N. Cannon Dr.
- **Millennium Park Welcome Center**
201 E. Randolph St.
- **Museum of Contemporary Photography**
600 S. Michigan Ave.
- **National Museum of Mexican Art**
1852 W. 19th St.
- **Navy Pier**
600 E. Grand Ave.
- **Smart Museum of Art**
5550 S. Greenwood Ave.

Macy's Holiday Windows

Walk outside alongside the Macy's store at 111 N. State St. to view animated holiday scenes.

McDonald's Thanksgiving Parade

Spend Thanksgiving morning with marching bands, enormous inflatables, floats, and Santa Claus and Ronald McDonald. This annual parade travels down State Street from 8 to 11 a.m.

Christkindlmarket Chicago and the Santa House

One of Chicago's most popular holiday events is Christkindlmarket Chicago, a traditional German open air market offering authentic German food, drink and wares. Christkindlmarket is free and is located on Daley Plaza between Washington and Dearborn Streets.

YOUR DONATIONS IN ACTION



With a Toshiba America Medical Systems/RSNA Research Seed Grant, **Soterios Gyftopoulos, M.D.**, assistant professor of radiology at New York University School of Medicine, is investigating “Ultrasound-Magnetic Resonance Imaging Correlation for Healing of Rotator Cuff Repairs using Vascularity and Tendon Elasticity.” Dr. Gyftopoulos was awarded the \$40,000 grant in 2013.

“Our hypothesis is the stages of healing of rotator cuff repairs can be defined and evaluated on MR imaging through the correlation of signal and morphologic characteristics with tendon elasticity and vascularity defined by advanced ultrasound capabilities,” Dr. Gyftopoulos said. “We also believe that we may be able to define MR imaging parameters that can be used in the pre-operative setting to predict repair success.”

For more information on RSNA Research and Education (R&E) Foundation grants, go to RSNA.org/Grants_and_Awards.aspx.

Continued from previous page

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Akira Yamada, M.D.
Jerome Zwanger, M.D.

RSNA/ESR/ACR PREPARE FOR SECOND INTERNATIONAL DAY OF RADIOLOGY

RSNA, the European Society of Radiology (ESR) and the American College of Radiology (ACR), along with other participating societies around the world, will celebrate the second International Day of Radiology (IDoR) on November 8, the anniversary of the discovery of X-rays by Wilhelm Conrad Röntgen, Ph.D.

IDoR is meant to build greater awareness of radiology's value and contributions to patient care and the vital role of the radiologist in the healthcare continuum.

Last year, international societies recognized the day through various activities, including lectures, symposia, social media promotions and press events. At RSNA headquarters, staff cel-



INTERNATIONAL DAY OF RADIOLOGY
AN INITIATIVE OF THE RSNA, ESR AND ACR

brated by making donations to the RSNA Research and Education (R&E) Foundation to help provide critical funding to promising radiology investigators and educators.

The main focus of IDoR 2013 will be lung imaging, highlighting the important role that radiology plays in the detection, diagnosis and management of a wide variety of lung diseases.

Two new booklets, *The Story of Radiology, Vol. II* and *Thoracic Imaging*, will be available, along with additional promotional materials, for download on RSNA, ACR and IDOR websites. For more information on how you can join the celebration, visit IDoR2013.com or RSNA.org/IDoR2013.

Journal Highlights

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

Breast Ultrasonography: State of the Art

Knowledge and understanding of current and emerging ultrasound technology—along with the application of meticulous scanning techniques—are imperative for image optimization and diagnosis. The ability to synthesize breast ultrasound findings with multiple imaging modalities and clinical information is also necessary to ensure the best patient care.

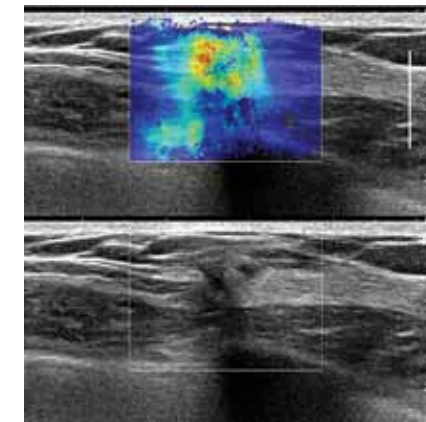
In an article in the September issue of *Radiology* (RSNA.org/Radiology), Regina J. Hooley, M.D., of Yale School of Medicine, and colleagues summarize current state-of-the-art ultrasound technology—including elastography—and applications of ultrasound in clinical practice as an adjuvant technique to mammography, MR imaging and the clinical breast examinations. The authors also discuss the use of breast ultrasound for screening, preoperative staging for breast cancer and breast intervention.

The use of screening breast ultrasound in addition to mammography, particularly in women with dense breast tissue, is becoming more widely accepted in the U.S., according to the authors.

“In the future, as radiologists utilize ultrasound for an ever-increasing scope of indications, become aware of the more subtle sonographic findings of breast cancer and apply newly developing tools, the value of breast ultrasound will likely continue to increase and evolve,” the authors write.

This article meets the criteria for *AMA PRA Category 1 Credit*[™]. SA-CME is available online only.

Radiology



Images in a 51-year-old woman with a suspicious mass first identified at screening mammography. Shear-wave elastogram demonstrates a stiff mass indicated by the red and yellow color overlay, which appears larger compared with grayscale. (*Radiology* 2013;268;3:642-659) ©RSNA, 2013. All rights reserved. Printed with permission.

Imaging of Pediatric Renal Transplants and Their Complications: A Pictorial Review

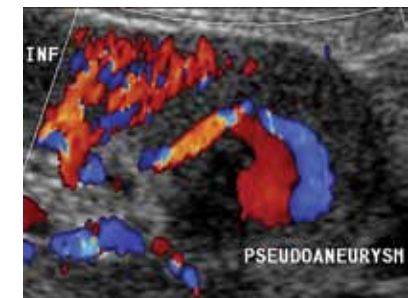
A technically demanding surgery with complex medical management, renal transplantation is associated with a number of complications. Anatomic imaging including ultrasonography with color and spectral Doppler and functional assessment with renal perfusion scintigraphy are complementary for the detection and characterization of posttransplant complications.

In an article in the September-October issue of *RadioGraphics* (RSNA.org/Radiographics), Jason N. Nixon, M.D., of Seattle Children's Hospital, and colleagues review the imaging appearances of pediatric renal transplants and their common complications. The surgical technique and postoperative and surveillance imaging are covered, followed by a description of the imaging appearance of the normal renal allograft. The authors also detail various posttransplant complications, including:

- perinephric fluid collections
- vascular and urologic complications
- abnormalities of graft function
- mass lesions

A thorough knowledge of the imaging appearances of renal transplants and their complications facilitates prompt and accurate diagnosis, which can improve long-term graft survival and decrease the overall morbidity and mortality, according to the authors. “This goal is particularly crucial in children, given their greater number of projected life years,” the authors write.

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



Pseudoaneurysm noted incidentally in a 14-year-old female patient 17 months after she had undergone renal transplantation for sarcoidosis. The patient had undergone multiple surveillance biopsy procedures before this US evaluation. Longitudinal gray-scale US image with superimposed color Doppler image shows swirling bidirectional flow within the lumen of a pseudoaneurysm, the so-called yin-yang sign. Gray-scale images (not shown) depicted a cystic-appearing mass. At follow-up angiography, the pseudoaneurysm had undergone spontaneous thrombosis.

(*RadioGraphics* 2013;33;InPress) ©RSNA, 2013. All rights reserved. Printed with permission.

Radiology in Public Focus

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

Exercise and Type 2 Diabetes Mellitus: Changes in Tissue-Specific Fat Distribution and Cardiac Function

SIX MONTHS of exercise training decreased visceral abdominal fat and hepatic triglyceride (TG) content in 12 patients with type 2 diabetes mellitus as measured by MR imaging and proton MR spectroscopy, new research shows.

Jacqueline T. Jonker, M.D., of Leiden University Medical Center, the Netherlands, and colleagues followed 12 patients with type 2 diabetes mellitus (seven men; mean age, 46 years \pm 2 [standard error]) before and after 6 months of moderate-intensity exercise, followed by a high-

altitude trekking expedition with exercise of long duration. Abdominal, epicardial and paracardial fat volume were measured with MR imaging. Cardiac function was quantified with cardiac MR and images were analyzed by a researcher who was supervised by a senior researcher.

Exercise reduced visceral abdominal fat volume from 348 mL \pm 57 to 219 mL \pm 33 ($P < .01$), and subcutaneous abdominal fat volume remained unchanged ($P = .9$). Exercise decreased hepatic TG content from 6.8 percent \pm 2.3 to 4.6 percent \pm

1.6 ($P < .01$) and paracardial fat volume from 4.6 mL \pm 0.9 to 3.7 mL \pm 0.8 ($P = .02$). Exercise did not change epicardial fat volume ($P = .9$), myocardial TG content ($P = .9$), intramyocellular lipid content ($P = .3$) or cardiac function ($P = .5$).

“Dietary interventions or substantial weight loss did not seem to be a requisite for beneficial reductions in visceral abdominal, paracardial, and hepatic fat volume in patients with type 2 diabetes mellitus,” the authors write.

Use of Imaging in the Emergency Department: Physicians Have Limited Effect on Variation

AFTER careful and comprehensive case-mix adjustment by using hierarchical logistic regression, only about 1 percent of the variability in emergency department (ED) imaging utilization was attributable to physicians in a recent study.

In this retrospective study of 88,851 consecutive ED visits during 2011 at Massachusetts General Hospital (MGH), Boston, Hannah J. Wong, Ph.D., York University, Ontario, Canada, and colleagues from MGH used a hierarchical logistic regression model to identify multiple predictors for the probability that low- or

high-cost imaging would be ordered during a given visit. Physician-specific random effects were estimated to articulate (by odds ratio) and quantify (by intraclass correlation coefficient [ICC]) interphysician variation.

Patient- and visit-level factors found to be statistically significant predictors of imaging use included measures of ED busyness, prior ED visit, referral source to the ED and ED arrival mode. Physician-level factors (for example, gender, years since graduation, annual workload and residency training) did not correlate with

imaging use. The remaining amount of interphysician variation was very low (ICC, 0.97 percent for low-cost imaging; ICC, 1.07 percent for high-cost imaging).

“The minimal variation in use of per-visit imaging between physicians (ICC, \sim 1 percent) after careful case-mix adjustment and hierarchical modeling suggested that measuring and reporting physician-specific rates of ED imaging has substantial risk of misclassification and very little potential for reduction in overall utilization,” the authors write.

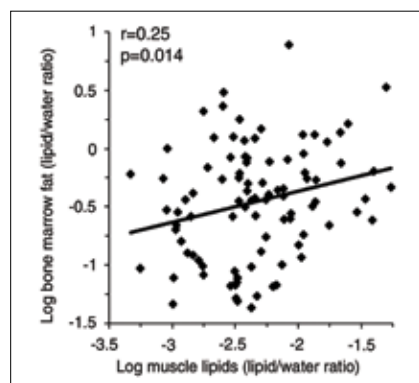
Ectopic and Serum Lipid Levels are Positively Associated with Bone Marrow Fat in Obesity

MEAN INTRAHEPATIC LIPIDS (IHL) and intramyocellular lipids (IMCL), as well as mean serum triglyceride levels, are on average significantly positively associated with bone marrow fat in obese men and women, new research shows.

Miriam A. Bredella, M.D., of Massachusetts General Hospital and Harvard Medical School, Boston, and colleagues studied 106 healthy young men and women (mean age, 33.7 years \pm 6.8 [standard deviation]; range, 19–45 years; mean body mass index (BMI), 33.1 kg/m² \pm 7.1; range, 18.1–48.8 kg/m²) who underwent hydrogen 1(¹H) MR spectroscopy.

Results showed a positive correlation between bone marrow fat and IHL ($r = 0.21$, $P = .048$), IMCL ($r = 0.27$, $P = .02$), and serum triglyceride level ($r = 0.33$, $P = .001$), independent of BMI, age, IR and exercise status ($P < .05$).

Significant positive correlation between mean IHL and IMCL with bone marrow fat is independent of insulin resistance and exercise status. “Increased ectopic and serum lipid levels may be detrimental to bone, and ¹H MR spectroscopy can be used to identify patients at risk for bone loss,” the authors write.



Nonadjusted regression analysis between bone marrow fat and ectopic and serum lipid levels. There are positive correlations between bone marrow fat and total muscle lipid levels.

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Emerging H7N9 Influenza A (Novel Reassortant Avian-Origin) Pneumonia: Radiologic Findings

RAPIDLY progressive ground-glass opacities (GGOs) and consolidations with air bronchograms and interlobular septal thickening with right lower lobe predominance are the main imaging findings in H7N9 pneumonia, new research shows. The severity of these findings is associated with the severity of the clinical presentation.

Twelve patients (nine men and three women) with novel avian-origin influenza A H7N9 virus infection were enrolled in the study conducted by Qingle Wang, M.D., of Shanghai Medical College of Fudan University, China, and colleagues. All patients underwent chest radiography and thin-section CT. Lesion patterns, distributions and changes at follow-up CT were investigated.

At presentation, all patients had progressing infection of the lower respiratory tract, with

fever, cough and shortness of breath, which rapidly progressed to acute respiratory distress syndrome.

The most common patterns at thin-section CT were diffuse GGO (in all patients), consolidations (in 11 patients), air bronchograms (in 11 patients), and interlobular septal thickening (in 11 patients) involving three or more lobes, with right lower lobe pre-dominance.

“The distribution and very rapid progression of H7N9 pneumonia were other characteristics seen in our patients,” the authors write. “The severity of imaging findings was associated with the severity of the underlying clinical condition.”



Anteroposterior chest radiographs obtained with portable bedside unit in 56-year-old man with H7N9 influenza on day 7.

(*Radiology* 2013;268;3:882–889) ©RSNA, 2013. All rights reserved. Printed with permission.

Natural History of Asymptomatic Unruptured Cerebral Aneurysms Evaluated at CT Angiography: Growth and Rupture Incidence and Correlation with Epidemiologic Risk Factors

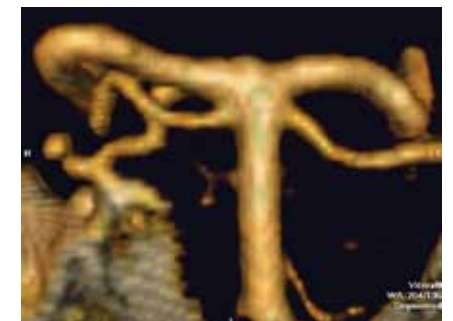
IMAGING follow-up of all patients with aneurysms—including those whose aneurysms are smaller than the current 7 mm treatment threshold—is necessary, new research shows. Aneurysm growth and size and smoking were associated with increased rupture risk.

In the study of 165 patients with known asymptomatic unruptured intracerebral aneurysms (258 total aneurysms), J. Pablo Villablanca, M.D., of the University of California Medical Center, Los Angeles, and colleagues followed subjects longitudinally with CT angiographic (CTA) examinations.

Over the study period (mean of 2.24 years), researchers observed growth in 46 or nearly 18 percent of all the intracra-

nial aneurysms in a total of 38 patients. There was a 12-fold higher risk of rupture for growing aneurysms ($P < .002$), with high intra- and interobserver correlation coefficients for size, volume and growth. Tobacco smoking (3.806, one degree of freedom; $P < .015$) and initial size (5.895, two degrees of freedom; $P < .051$) were independent covariates, predicting 78.4 percent of growing aneurysms.

“The positive association of cigarette smoking and the size and growth of aneurysms suggests that the combination of these factors is associated with an increased risk of rupture, which may influence consideration for therapeutic intervention,” the researchers write.



Frontal projection 3D volume-rendered images with anteroposterior projection in a 48-year-old woman with small saccular basilar tip aneurysm that arose from small contour deformity located at basilar tip. Image shows minor contour deformity at basilar tip.

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Continued on next page

Education and Funding Opportunities

Final Call to Register for 2013 CORE Workshop

Registration deadline **September 26**

THE 2013 Creating and Optimizing the Research Enterprise (CORE) workshop will be held Friday and Saturday, Oct. 25 and 26, 2013, in Oak Brook, Ill. The workshop will focus on strategies for developing and/or expanding research programs in radiology, radiation oncology and nuclear medicine departments. The CORE Program features a combination of presentations, case studies and group discussions. More information and registration is available at RSNA.org/CORE.



Medical Meetings September-October 2013

SEPTEMBER 28-OCTOBER 1

European Society of Neuroradiology (ESNR), 37th Annual Meeting, University of Frankfurt, Germany
• www.esnr.org

SEPTEMBER 28-OCTOBER 1

North American Society for Cardiac Imaging (NASCI), 41st Annual Meeting, Marriott Marquis, Atlanta
• www.nasci.org

OCTOBER 1-5

International Skeletal Society (ISS), 40th Annual Meeting and Musculoskeletal Imaging Course, Loews Philadelphia Hotel
• www.internationalskeletalsociety.com

OCTOBER 3-5

European Society of Head and Neck Radiology (ESHNR), Annual Scientific Meeting, Hotel Crowne Plaza Izmir, Turkey
• www.eshnr.eu

OCTOBER 6-9

International Society of Ultrasound in Obstetrics and Gynecology (ISUOG), World Congress, and Australasian Society of Ultrasound in Medicine (ASUM), 43rd Annual Scientific Meeting, Sydney Convention and Exhibition Centre
• www.isuog.org/WorldCongress/2013

OCTOBER 9-12

American Society of Emergency Radiology (ASER), Annual Scientific Meeting and Postgraduate Course, Hyatt Regency Cambridge, Boston
• www.erad.org

OCTOBER 9-12

Korean Society of Radiology (KSR), The 69th Korean Congress of Radiology (KCR), COEX, Seoul
• www.kcr4u.org

FIND MORE EVENTS AT RSNA.org/calendar.aspx.

OCTOBER 10-12

The Society of Chairs of Academic Radiology Departments (SCARD), 2013 Fall Meeting, Charleston Place, Charleston, S.C.
• www.scardweb.org

OCTOBER 11-12

European Society of Breast Imaging (EUSOBI), Annual Scientific Meeting, Rome
• www.eusobi.org

OCTOBER 17-20

Royal Australian and New Zealand College of Radiologists (RANZCR), 64th Annual Scientific Meeting, SKYCITY Auckland Convention Centre, New Zealand
• www.ranzcr2013.com

OCTOBER 19-23

French Society of Radiology (SFR), Journées Françaises de Radiologie (JFR) 2013, Palais des Congrès, Porte Maillot, Paris
• www.jfrexpo.com

Radiology in Public Focus

Continued from previous page

September Public Information Activities Focus on Ovarian and Prostate Cancers

In recognition of Ovarian Cancer Awareness Month and Prostate Cancer Awareness Month in September, RSNA is distributing public service announcements (PSAs) focusing on the symptoms of ovarian and prostate cancers, as well as risk factors, screening methods and possible treatment options.

The RSNA "60-Second Checkup" audio program will also be distributed to nearly 100 radio stations across the U. S. September segments will focus on risk factors of prostate cancer.

RadiologyInfo.org Posts New "Your Radiologist Explains" Videos

Visit RadiologyInfo.org, RSNA and ACR's jointly-sponsored public information website, to view recently posted "Your Radiologist Explains" video presentations, including:

- Blood Clots
- Cardiac CT
- CT Dose
- CT Colonography
- Vertebroplasty and Kyphoplasty

Residents & Fellows Corner

Fellowship Connect, RSNA 2013 Focus of Resident/Fellow Committee Meeting

At its most recent meeting in June, the RSNA Resident & Fellow Committee (RFC) discussed the Resident & Fellow Symposium at RSNA 2013 and gave an update on RSNA's Fellowship Connect website that links residents and fellows with available fellowship positions.

At the meeting at RSNA Headquarters in Oak Brook, Ill., RFC members finalized plans for this year's Resident and Fellow Symposium designed to provide useful information to residents and fellows as they begin their career paths. Sessions will include "Career 101: Planning for Success after Residency" and "Survival Skills for Your Job." RFC Chairman Aparna Annam, D.O., will provide an introduction at both sessions. The committee also discussed potential topics and speakers for the 2014 meeting.

The committee reviewed the status of Fellowship Connect, a searchable database of available fellowship positions throughout the U.S., available free to all RSNA members as a member benefit. Find it at fellowships.rsna.org.

Future plans include a pilot project for a Member-in-Training Education Portal that would allow users to access resident/fellow-specific education housed in one area on RSNA.org. RFC members also heard about plans to launch a mentoring program for senior residents and fellows interested in becoming *RadioGraphics* reviewers in 2014. Further details will be forthcoming.

The RFC will next meet in December during RSNA 2013. For more information on the committee, go to RSNA.org/Trainees.aspx. For more information on the RSNA 2013 sessions, go to RSNA.org/Annual_Meeting.aspx. Enrollment for RSNA 2013 is underway at RSNA.org/register.



Members of the Resident and Fellow Committee met in June at RSNA headquarters: left to right: John Krol, M.D., Christina Cinelli, M.D., Monique Meyer, M.D., Mark Ashkan, M.D., Nina Ventura, M.D., Jeffrey Olsen, M.D., Aparna Annam, D.O., Justin Stevens, M.D., Nancy Benedetti, M.D., Anthony Brown, M.D., Peggy Yen, M.D., Candice Bookwalter, M.D., Ph.D., and Duane Mezwa, M.D.

Technology Forum

RSNA MIRC Video Tutorials Demonstrate Simplicity of Use

New video tutorials show just how easy it is to get started with RSNA's Medical Imaging Resource Center (MIRC) Teaching File System (TFS). Users will quickly learn how to install the free software, convert existing teaching files, select files for a conference and more.

Developed under the RSNA MIRC project, MIRC TFS is free software that allows users to author, manage, store and share radiology teaching files locally or across institutions—through any Web browser.

Using the software, cases can be created from a PACS workstation or standalone computer with full DICOM datasets. Authors can share the cases with colleagues or keep them private. Cases can be exported in a variety of formats, including PowerPoint presentations, for use in educational conferences.

MIRC TFS creates a secure, central repository for radiological cases and automatically removes protected health information.

Get started at RSNA.org/tfs.aspx.

Annual Meeting Watch

Receive Registration Materials Prior to the Meeting

Register by Nov. 8 to receive the discounted registration fee and full conference materials mailed to you in advance. International visitors must register by Oct. 25 to receive these materials in advance. Registrations received after Nov. 8 will be processed at the increased fee and conference materials must be obtained at the McCormick Place Convention Center. No hotel reservations will be accepted after Nov. 8.

Name Badge

A name badge is required to attend RSNA courses or events or to enter the exhibit halls. RSNA will use radiofrequency identification (RFID) badge scanning technology within the Technical Exhibit Halls. No personal information is stored in the RFID badge, only an ID number. Should you wish to "opt out" of this program, please visit either Help Center located in the Grand Concourse or Lakeside Center Ballroom on Level 3.



RSNA Meeting Program in Brief

A complimentary copy of the *RSNA Meeting Program in Brief*, an official meeting bag and a name badge lanyard can be obtained by presenting a voucher at the distribution counters located in the Grand Concourse, Level 3 or Lakeside Center, Level 3, Hall D (near coat check).

Course Enrollment

Seats are still available in many of the courses to be offered at RSNA 2013. Online registration occurs instantly, while faxed or mailed registration forms are processed in the order of receipt. The Registration, Housing and Course Enrollment brochure and online registration is available at RSNA.org/register. You must be registered for RSNA 2013 in order to enroll in courses.

RSNA 2013 Registration

How to Register

There are four ways to register for RSNA 2013:

1 INTERNET (fastest way)

Go to RSNA.org/register

2 FAX (24 hours)

1-888-772-1888

1-301-694-5124

3 TELEPHONE

(Mon.-Fri. 8 a.m. - 5 p.m. CT)

1-800-650-7018

1-847-996-5876

4 MAIL

Experient/RSNA 2013

P.O. Box 4088

Frederick, MD 21705 USA

Registration Fees

	BY NOV. 8	AFTER NOV. 8	
\$ 0	\$100		RSNA/AAPM Member
0	0		RSNA/AAPM Member Presenter
0	0		RSNA Member-in-Training, RSNA Student Member and Non-Member Student
0	0		Non-Member Presenter
180	280		Non-Member Resident/Trainee
180	280		Radiology Support Personnel
825	925		Non-Member Radiologist, Physicist or Physician
825	925		Hospital or Facility Executive, Commercial Research and Development Personnel, Healthcare Consultant and Industry Personnel
325	325		One-day registration to view only the Technical Exhibits

Important Dates for RSNA 2013

October 25	International deadline to have full conference badge mailed
November 8	Final housing and discounted registration deadline
November 27	Deadline to guarantee a seat for all ticketed courses
December 1-6	RSNA 99th Scientific Assembly & Annual Meeting

For more information about registering for RSNA 2013, visit RSNA.org/Attendees.aspx, e-mail reginfo@rsna.org, or call 1-800-381-6660 x7862.

Virtual Meeting

\$ 0	RSNA Member-in-Training, RSNA Medical Student Member and Retired RSNA Member
\$100	RSNA/AAPM Member
\$300	Non-Member



EXCLUSIVE AIRLINE DISCOUNTS

American Airlines

AA.com offers a 5 percent discount on the lowest applicable published airfare. Use promotional code **31D3AY** when booking your reservation with AA.com. You can also call American (1-800-433-1790) and mention the American promotional code to be eligible for discounted fares. Service fees will apply when booking over the phone. Discounts are available on American Airlines, American Eagle and American Connection. Reservations involving any oneworld Alliance or codeshare partner airlines must be booked via phone.



Delta Air Lines

Delta offers a 10 percent discount on full/non-restricted fares and 5 percent discount on discounted/restricted airfares. Reservations and ticketing is available via Delta.com or by calling Delta's Meeting Network Reservations at 1-800-328-1111. When booking online, select Meeting Event Code and enter **NMGBE** in the box provided on the Search Flight page. Please note that a Direct Ticketing Charge will apply for booking by phone. Applicable restrictions may apply.



United

United offers a 2 to 10 percent discount off published fares. Call the United Meetings desk at 1-800-426-1122 and provide the following information: Agreement code: **777175** and Z Code: **ZNSV**. No service fee will be charged when booking over the phone directly with United Airlines. This code is not valid on the United website. Discounts applicable only for the following travel dates: November 28 and 29, and December 4-9.



Gant Travel

RSNA attendees who book air travel through Gant Travel experience the following benefits: fare-checker technology (checking for lower fares until your return flight home); seat-checker technology (checking for the best available seats per your preference); emergency assistance available by phone; flight monitoring alerts



For more information, contact Gant Travel at 1-877-613-1192, international +1 011 630-227-3873 or RSNA@ganttravel.com.

5K Fun Run

Tuesday, December 3, 6:30 a.m.

Arvey Field, South Grant Park, Chicago

Enjoy a 5K event with your colleagues along Chicago's beautiful Lake Michigan shore and help fuel critical research to keep our specialty at the forefront of health-care. During online registration or onsite at McCormick Place, you can sign up as a runner or walker for the 5K Fun Run. The signup donation of \$40 will benefit the RSNA R&E Foundation and is fully tax deductible. Participants receive a commemorative T-shirt.



Special Lecture

Condoleezza Rice, Ph.D.
Mobilizing Human Potential

Tuesday, December 3,
1:30 PM • PS30

Tickets required. Register at RSNA.org/register.



The Value of Membership

Featured Benefit: *RSNA News*

Whether you prefer the print, online or tablet edition, free access to *RSNA News* is a premier benefit of RSNA membership.

For more than 20 years, *RSNA News* has provided high-quality, timely coverage of radiology research and education and critical issues facing the specialty, along with comprehensive information about RSNA programs, products and other member benefits.

The *RSNA News* tablet edition provides enhancements to the radiology news, announcements and RSNA-related content published in the print version. This includes Web links, videos, audio features, and educational presentations.

Look for the RSNA 2013 meeting preview issue of *RSNA News* next month. In it you will find everything you need to prepare for the world's premier medical meeting—previews of presentations in every subspecialty, a guide to the technology that will help you navigate the meeting, even a list of McCormick Place dining choices and options out in the city.

For more information on these and other *RSNA News* features go to RSNA.org/NewsLandingPage.aspx.



Academy Offers Radiology Leadership and Management Credentials

Combining existing leadership and management courses under one umbrella, the Academy of Radiology Leadership and Management (ARLM) offers the opportunity to enhance your career and develop as a professional at upcoming meetings and workshops featuring ARLM-approved courses.

ARLM courses are offered by five sponsoring organizations: RSNA, Association of University Radiologists (AUR), American Roentgen Ray Society (ARRS), Society of Chairs of Academic Radiology Departments (SCARD) and Association of Administrators in Academic Radiology Departments (AAARAD).

Medical imaging professionals can earn a Certificate of Achievement from ARLM by earning 50 education credits—at least 30 in person—across a core spectrum of leadership learning domains, including financial skills, human resources, professionalism, legal/contracting, academic mission and general management.

Courses taken over a three-year period can be applied to certificate requirements, while CME coursework from previous years may also count toward certification. There are no fees beyond the costs associated with CME activities, and many of those are free to members of the respective sponsoring societies.



RSNA.org

Add the Virtual Meeting for the Best RSNA 2013 Experience

Can't make it to Chicago for RSNA 2013? Not able to attend all the sessions on your RSNA 2013 agenda?

You can still experience the world's premiere medical imaging event from any computer or mobile device via RSNA's Virtual Meeting.

Visit RSNA.org/virtual to add the Virtual Meeting to your registration and tune in to live sessions during RSNA 2013 and on-demand through December 13. The fee is \$100 for RSNA/AAPM members; \$300 for non-members. RSNA members-in-training, medical student members and retired members can access the Virtual Meeting for free.

Visitors to the Virtual Meeting page can view video highlights of the RSNA 2012 Virtual Meeting and explore the full gamut of offerings planned for RSNA 2013. Starting Nov. 30, registered Virtual Meeting attendees can:

- Watch more than 40 live streaming courses, including plenary sessions, the image interpretation session, refresher courses, Cases of the Day, multisession courses, series courses and scientific sessions.
 - Earn Continuing Education credits—live participation lets you maximize your CME.
 - See select education exhibits and digital scientific presentations.
 - Submit your diagnoses for Cases of the Day consisting of five cases per subspecialty area throughout the week. Answers will be revealed the following morning.
 - Shop for cutting-edge products, services, equipment and software from RSNA 2013 exhibitors.
 - Watch live exhibitor product theater demonstrations.
 - See courses and exhibitor presentations on demand through December 13.
- Access the Virtual Meeting program at RSNA2013.rsna.org/virtual/program.



COMING NEXT MONTH

Our special Meeting Preview issue will get you ready for RSNA 2013. Also, we report on the rise of open access publication of academic research and explore the factors driving those changes.



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online at
**RSNA.org/
Register**

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RSNAFANS #RSNA13

*99th Scientific Assembly and Annual Meeting
December 1-6 | McCormick Place | Chicago*

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