

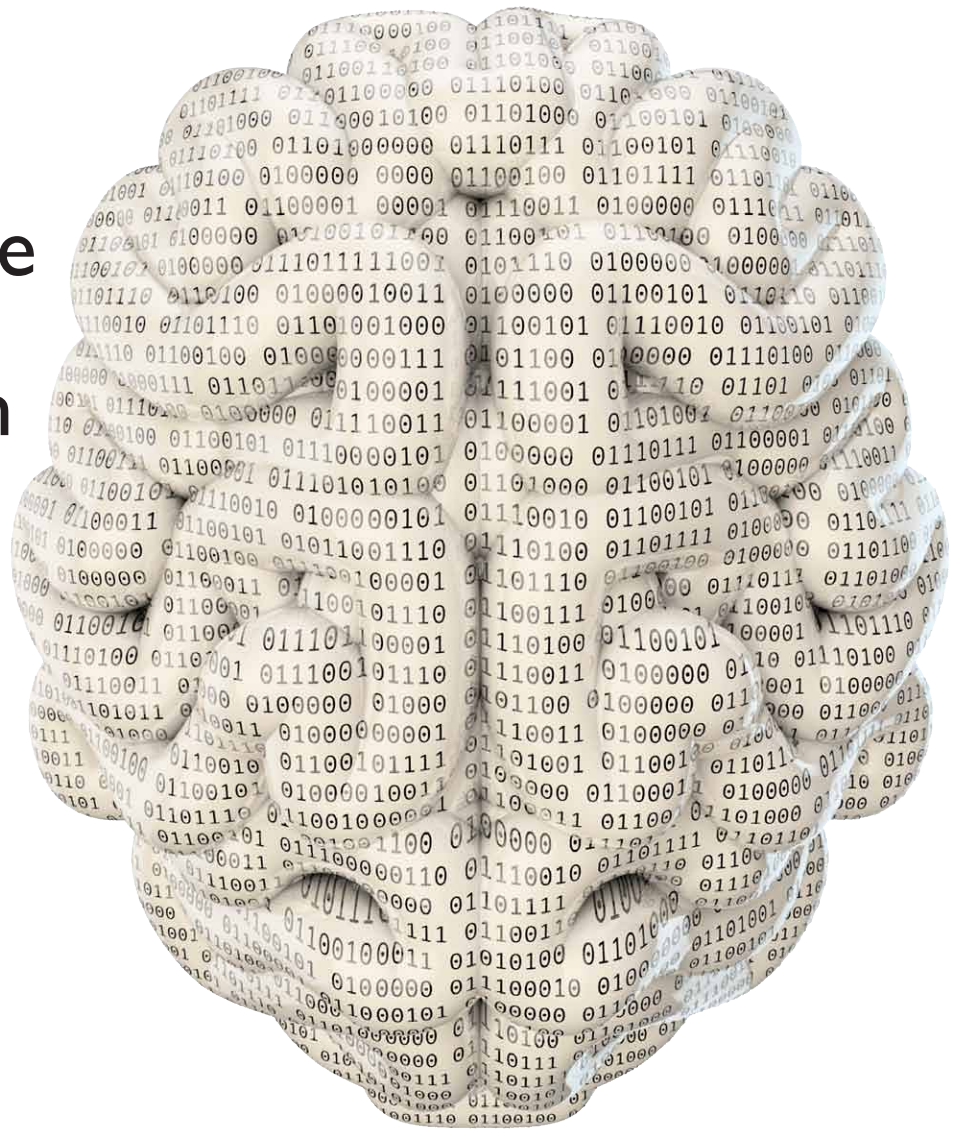
RadiologyUpdate

THE RUSSELL H. MORGAN DEPARTMENT OF RADIOLOGY AND RADIOLOGICAL SCIENCE

Image Database May Help Diagnose Brain Disorders

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Goodbye from Dr. Lewin

On May 1, 2004, I entered my new office in the Johns Hopkins Outpatient Center, beginning a new chapter in the annals of the Russell H. Morgan Department of Radiology and Radiological Science. Almost 12 years have sped past, and I find myself at another juncture. I have learned that opportunities sometimes arise in surprising ways and when least expected. I have been thinking a lot about that as I begin my new position as executive vice president for health affairs at Emory University and as president, CEO and chairman of the board for Emory Healthcare. This unique combination of roles will be challenging, but I will be greatly assisted by all I have learned working with the unequalled team from Johns Hopkins.

These 12 years have seen the faculty grow from 120 members to over 245 clinical and research faculty members. We have also more than doubled our clinical volumes as well as our research funding, now approaching \$35 million annually when we include our faculty members who are based at the Kennedy Krieger Institute. I am most proud by how engaged our faculty, staff and trainees have been in making the care for our patients consistently outstanding, creating innovative and impactful scientific discoveries, and educating the next generation of unparalleled radiologists and scientists.

I am so grateful for the energy, creativity and unwavering pursuit of excellence that defines our department, and for the opportunity I have had to work with the most dedicated colleagues on the planet! It has been an honor and a privilege to lead this stellar team and to learn from them. You can take me out of Baltimore, but I will always remain a member of the Johns Hopkins family.

—Jonathan Lewin, M.D.
Professor Emeritus
Former Martin Donner Professor and Chair



Hello from Dr. Horton

Like Dr. Lewin in 2004, I entered the office on the fourth floor of the Outpatient Center on Feb. 1, 2016, as the interim director with a sense that we are beginning another new chapter of the Russell H. Morgan Department of Radiology and Radiological Science. I first came to Johns Hopkins in 1988 as a medical student and have been in the department since 1993, when I started my residency, so I have witnessed many leadership transitions. I was honored when the dean asked me to assume the role as interim director. I feel very fortunate to have an opportunity to serve the department in this role, and I would like to take this opportunity to summarize my goals during this transition.

At our February faculty meeting, I reviewed specific mission related goals for FY 17. For openers, I would like to recognize our faculty and staff for all of the hard work they do to make this the best radiology department in the world. Our clinical volumes are impressively high, and I am very proud of our department's commitment to innovative research, as well as clinical and educational excellence as a leading academic medical center. I will use my experience in operational improvements to support the department and ensure that we maintain the high quality of our practice. Research funding has become increasingly competitive, but we continue to be highly successful in our grant funding. My efforts will include rebuilding the research grants administrative office and identifying funds to continue to support our innovative research programs.

Also, this year we will begin to focus efforts on improving the value of the care we deliver and clinical utilization management. I have promoted Pamela Johnson to the role of director of appropriate use. Dr. Johnson will work with representatives from each radiology division and faculty members in other departments to review and refine ordering patterns in accordance with best practice guidelines. This is clearly a paradigm shift for radiologists that requires a change in our culture, where in the past volume was



the goal. Now value is the goal, as it always should have been. To implement these goals requires changes in institutional strategy and operations management. We need to ensure that every imaging exam is indicated, that providers select the correct imaging modality and that our exams are performed with the best protocol as defined by the literature.

As the vice chair of education and radiology residency program director, Dr. Johnson is working with Dr. Lilja Solnes, our new program director of the nuclear medicine residency, and Dr. Doug Yim, who will be program director of the interventional radiology residency, as we roll out new training programs. She will also work with curriculum directors and fellowship directors to collaborate efforts and innovate our education programs. Dr. Johnson's favorite quote is "Complacency is the mistress of mediocrity." We must continue to advance the excellence of our training programs and make certain that our trainees understand the importance of high value in this new era of radiology.

This year, we will also focus on creating a true community practice division as we strive to integrate radiological services at our new community hospitals in Howard County and the national capital region. As branches of Johns Hopkins' radiology department, the quality of care delivered at each of these locations is our responsibility. We need to run efficient and effective operations that add true value to patient care. We also need to make customer satisfaction a high priority



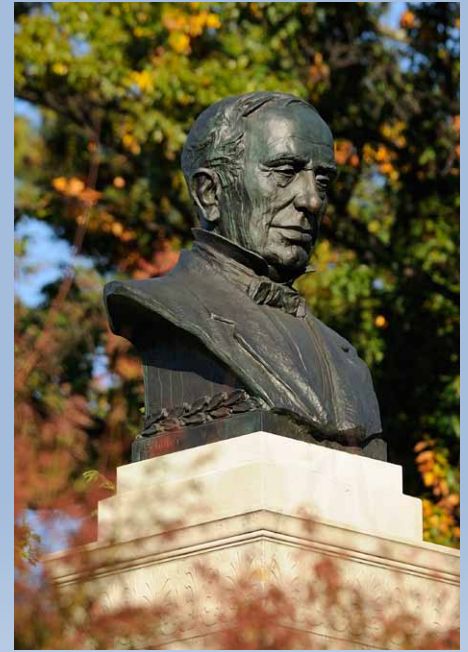
at every Johns Hopkins hospital and imaging center, recognizing that customers are both patients and referring clinicians. This requires focus on employee and faculty satisfaction. Happy, engaged employees result in happy, engaged patients.

Radiology, like all of medicine, is entering a phase of rapid change and increasing external pressures. These significant challenges will require bold leadership for the department and strong support from our faculty and staff. As a profession, we need leaders who are not afraid to challenge the status quo, can work in multidisciplinary teams to find innovative solutions, and can inspire and unlock the potential in others.

During this interim year, I will work to keep the department moving forward. As Will Rogers said, "Even if you are on the right track, you will get run over if you just sit there." I have encouraged our faculty and staff to make use of my new office hours to meet with me about any concerns or suggestions for quality improvement. In addition, I also would like to welcome our alumni and donors to feel free to reach out to me with concerns, questions or suggestions at 410-955-5677 or khorton@jhmi.edu.

—Karen M. Horton, M.D.
Professor and Interim Director
The Russell H. Morgan Department of Radiology
and Radiological Science

Mr. Johns Hopkins changed the course of history with one bold stroke of his pen by signing a will that would create The Johns Hopkins University.



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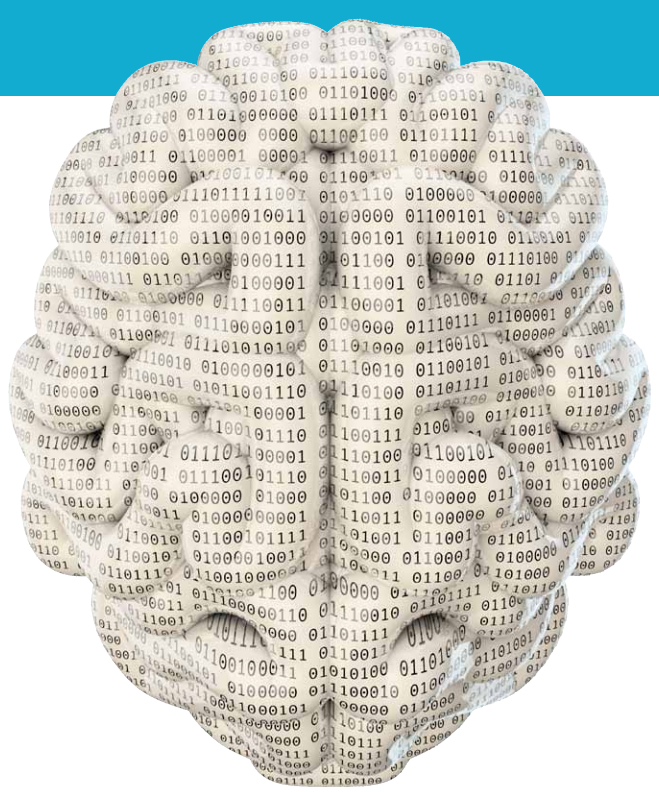
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Browse the Brain? Search Engines of the Future



RESearchers in the Department of Radiology and Radiological Science and the Department of Biomedical Engineering are collaborating on building a database that will house an unrestricted number of images derived from pediatric brain MRI examinations. A cloud-based method of storage allows for easy expansion and an unlimited number of users.

This National Institutes of Health-funded team is led by co-lead investigators Thierry Huisman, professor and director of the Division of Pediatric Radiology and Pediatric Neuro-radiology at the Johns Hopkins Children's Center, along with Susumu Mori, professor and director of the Center for Brain Imaging Science, and Michael Miller, director of the Center for Imaging Science.

Working together for over five years, Huisman and Mori have established a database containing more than 10,000 MRI studies of pediatric brains, including both normal and abnormal cases.

Many features (phenotype) are entered for each child's brain MRI scan. Images are tagged with diagnostic information and categorized according to 22 diseases of the brain. This could include epilepsy, psychiatric disorders or a vascular disease. A series of 1,000 structural measurements from 250 regions of the brain are also included. Once this index is created, the search can be text-based or image-based.

The end result will look like a massive digital library that can be searched by a physician in much the same way we use Google to find information. A physician who is seeking a diagnosis can submit his patient's latest MRI scans and request data on children with examinations that demonstrate significant similarities to his own patient. Greater objectivity will be derived from this database, according to Huisman. Disease and injury that may be missed by the human eye will be identified by the indexing features. The computer routinely

excels in identifying patterns and correlating indices in a more efficient manner.

Combining the wealth of information Huisman and Mori are extracting from each MRI study, along with the volume of MRI studies of the brain done annually in children in the United States, is a window into the power of the big data surge. Just as the knowledge base grows in human beings as more information is provided, so does a computer algorithm expand its capacity to sort through the features inputted by the users and then find the commonalities that most exemplify a disease state.

All work on the frontier of science faces challenges, but plans are moving forward to implement this technology into clinical workflows. The inclusion of collaborators from other institutions will increase the overall knowledge base and volume of imaging studies available for analysis. New collaborations are the catalyst for new ideas and innovative tools for analysis.

Adults will also benefit from this research plan. Work is underway to build an image library containing MRI scans of the elderly. Working with Marilyn Albert, the director of cognitive neuroscience in the Department of Neurology, the team will explore dementias and other diseases associated with aging. ■

To learn more about this project:

Video: www.youtube.com/watch?v=pz3b-Vo6NPc



The Hub (The Johns Hopkins University): Johns Hopkins researchers building searchable database of children's brain scans

Baltimore Sun: Image databank could help diagnose children's brain diseases



Minnies 2015 Winner for Best Radiologist Training Program

CONGRATULATIONS TO everyone in our Department of Radiology and Radiological Science on the 2015 Minnies award as the Best Radiologist Training Program in the nation. This is a highly competitive award and the sixth time Johns Hopkins earned this recognition over the past 14 years, most recently in 2012. The Minnies are annual awards ranking the best in radiology, determined by AuntMinnie.com, the premier online information, transaction and education site for all individuals affiliated with the medical imaging industry.

Candidates are selected from nominations submitted by members of AuntMinnie.com, and winners are selected through two rounds of voting by expert panelists.

Residency program director Pamela Johnson says a major factor in the program's continued success is its people, dating back to Stanley Siegelman, who founded the program 30 years ago. Siegelman made resident education a department priority, a commitment

continued by Karen Horton, who led the residency program for five years until Johnson took over in March 2014.

The program's faculty members are all leaders in their respective fields and have a passion for educating and mentoring radiologists. Johnson says a major priority of the program is teaching residents how to perform the most appropriate imaging exam for every patient to add value to the care process.

"That is the model for a successful radiologist in the future. You have to be an active member of the patient care team," Johnson says. The residency program is continuing to innovate new ways to adopt IT-driven tools to advance resident education even further. After a year of development, the department rolled out a new dashboard designed to give residents real time feedback compared to a range of clinical, professional and educational metrics, and compared to deidentified data from their classmates. As an example, one feature of the dashboard includes data on case volumes and the rates at which

residents' case interpretations undergo modifications. Johnson says the dashboard has been positively received by residents at Johns Hopkins. Residents can use the dashboard to monitor their own progress and identify their areas for improvement. The data are pulled in real time so residents do not have to wait for a report at the end of each month. The first year of using the resident dashboard will be used to collect aggregate data on resident performance which could then be used to set benchmarks the following year.

The radiology residency program is continuing to innovate and expand by establishing additional educational training opportunities. The program is developing a diagnostic radiology/interventional radiology track that includes first-year training to promote integrated and early specialization in interventional radiology. The department also recently began a molecular imaging residency training program, where residents will be dual-board certified in diagnostic radiology and nuclear medicine. ■

Four-Legged Frontier

A new high-tech imaging center for furry patients could ultimately benefit human patients.

By **Shawna Williams**

WHEN REBECCA KRIMINS tells new acquaintances about her job, she sometimes has to repeat herself a few times. “People don’t believe I’m at Hopkins and working on animals,” says the veterinary anesthesiologist. “I have to tell them two or three times.”

The confusion is understandable: Associated for 126 years with top-flight human medicine, the Johns Hopkins University School of Medicine ventured less than two years ago into veterinary care. In doing so, those involved in the new program aim to advance care not only for pets, but ultimately for people.

Johns Hopkins’ Center for Image-Guided Animal Therapy began in fall 2013 as a place where local veterinarians could send animals in need of advanced imaging procedures. Dara Kraitchman, a radiologist and veterinarian, started the program partly out of a desire to extend the benefits of medical advances to furry patients. Veterinary offices generally lack expensive MRI and CT machines; some hospitals allow after-hours pet imaging, but the school of medicine’s research-dedicated facilities are the most powerful available to vets in the Baltimore/Washington area, Kraitchman says. These facilities, located in the basement of a building on the edge of the medical campus, are different from the clinical facilities in The Johns Hopkins Hospital but have similar levels of state-of-the-art, advanced imaging equipment.

In practical terms, access to more powerful imaging often means diagnosing or treating a pet without invasive procedures. For example, Kraitchman can use MRI, CT and/or ultrasound to locate a mass precisely enough to collect a biopsy sample with an inserted needle,

with no need to make a large incision and find the mass visually. She and her colleagues also use imaging to guide certain minimally invasive surgical procedures, such as inserting stents and freezing away problematic tissue.

But the center’s assets go beyond top machinery and Kraitchman’s expertise. When Krimins came on board last September, she became the only veterinary anesthesiologist in all of Maryland. “Most of our patients are very sick, so it’s best to have a specialist do the anesthesia,” she explains.

Owners can’t bring their pets directly to the center. Kraitchman and Krimins work with area veterinarians, including specialists, to identify animals that can benefit from the center’s services. “We’re looking not to compete but partner with specialists around us,” Kraitchman says.

Kraitchman’s ambitions for the center go beyond improving veterinary care locally. Since 1999, she has been helping to develop new interventional cardiology and radiology procedures at the school of medicine, and she saw the potential to “give something back” to the veterinary profession. In addition to developing protocols that translate advanced imaging procedures from people to pets, she wants the center to conduct studies needed to get new drugs and devices to market.

Such studies could ultimately benefit human and veterinary patients. “We have a lot of things that look promising in animal studies, and then 70 percent or more fail to make it through to a commercial product,” Kraitchman says. Part of the reason for that, she suggests, is that lab animals with artificially induced disease may be a flawed model of human disease. But “if an animal has spontaneous disease—obesity, for example—they



often have the same confounding factors humans do,” such as diabetes or high cholesterol. This could make them a better model for how a therapy will work in similarly complicated humans.

Doing preclinical trials in veterinary patients would also cost less than using lab animals, Kraitchman says, because researchers wouldn’t bear the costs of housing the animals. It would give owners of sick pets earlier access to promising therapies, and it would cut back on the need for laboratory animals.

The center is beginning a study to test whether imaging can detect impending heart failure in dogs predisposed to the condition so they can be treated accordingly. And soon, they hope to launch a trial of a long-acting pain medication, a project Krimins finds particularly exciting. “It’s very rewarding when I can help patients live a pain-free lifestyle,” she says. ■

A Difficult Diagnosis

Experience matters when treating this common vascular condition.

Although vascular malformations are a prevalent condition, they can be difficult to diagnose and tricky to treat.

“This condition shows up in so many different forms in so many different parts of the body. It can take a while to figure out how to treat them,” says Sally Mitchell, an interventional radiologist at Johns Hopkins. This is why, she explains, Johns Hopkins is among only a few facilities in the country equipped to manage the condition.

Often mistaken for tumors, vascular malformations are actually masses that form in the lymph nodes, veins or arteries, usually composed of excess blood vessels. The masses can be severely painful and cause skin breakdown, disfigurement and loss of function. They occur before birth but may show symptoms at any age.

“We had a young woman from China who had a massive tongue malformation,” Mitchell says. “She could hardly speak or eat. But once we were able to shrink it down, she was able to return to a normal life again.”

Treatment options vary depending upon the type and severity of the malformation. Arterial malformations may require a physician to go into the artery and plug the connections to the vein, possibly with medical-grade glue. Lymphatic and venous malformations, however, are generally treated with percutaneous (through-the-skin) therapy, perhaps a high-dose antibiotic that causes the mass to break down. “There is no skin

cutting or scalpel,” says Clifford Weiss, an interventional radiologist at Johns Hopkins. “It’s the epitome of minimally invasive therapy and is extraordinarily effective.

“It’s very satisfying to treat these patients,” Weiss continues. “Vascular malformations are understudied, underfunded and underrecognized. Typically, our patients have gone undiagnosed or misdiagnosed for years and arrive at our clinic feeling scared and hopeless. We provide them with an accurate diagnosis, an understanding of their disease and a directed treatment plan.”

Specially Suited for Diagnosing Malformations

Although vascular malformations require expert care, first comes a diagnosis, which is no easy feat. “Some patients spend years trying to figure out what they have,” says Mitchell, “and then several more years looking for someone who can treat it.”

Mitchell launched the multidisciplinary Johns Hopkins Vascular Anomalies Center of Excellence to provide care for the many sufferers of vascular malformation. “Even the most well-trained interventional radiologists may see only one or two vascular anomalies per year,” says Weiss, who shares cases at the center with Mitchell. “At Johns Hopkins, we see 15 to 16 patients a week.” ■



Vascular Malformations: A Rare but Treatable Condition

The difficulty with vascular malformations is that they’re masters of disguise. Often mistaken for tumors or cysts, vascular anomalies can occur almost anywhere in the body. The good news: They are often treatable and are responsive to nonsurgical treatment. During this video Johns Hopkins physicians Sally Mitchell and Clifford Weiss discuss the different types of vascular malformations and available treatment options. To view the video, visit bit.ly/VIRWebinarVideo.



Interventional radiologists Clifford Weiss and Sally Mitchell



Child Life Services in Pediatric MRI: The Investment That Pays

IT'S AN MRI MANAGER'S

NIGHTMARE: The 7-year-old outpatient scheduled for a one hour MRI slot arrives late and is hustled into the scanner. The IV infiltrates. The child screams and struggles through the first 20 minutes of the scan and has to be taken out, leaving too little time to try again. The parents are frustrated about the process and resist being rescheduled. Meanwhile, the scanner stands idle.

SOME VERSION OF THIS NIGHTMARE HAD PLAYED out all too often at Johns Hopkins prior to 2011. At that point, MRI workflow came under the scrutiny of a Lean Sigma project run by a committee of stakeholders from the departments of Radiology and Radiological Science and of Anesthesiology and Critical Care Medicine, composed of physicians, nurses, technologists, managers and patient services coordinators. While it was obvious that pediatric patients, particularly outpatients, caused waves in the workflow, what intervention could be done was less clear. The patients came in all sizes with a variety of problems, and general anesthesia for all was neither feasible nor medically indicated. Moreover, the number of pediatric referrals was increasing as fears about radiation exposure shifted more cross-sectional imaging away from CT and refinements in resolution and pulse sequencing to the attractiveness of MR for pediatric diagnosis. The more the committee examined the problem, the more it became clear that the most important components of getting a diagnostic-quality MRI scan would actually happen before the child ever enters the scan room.

Child Life Services had always been available at Johns Hopkins to all families who asked for it. Whenever this happened, the committee noted, the child routinely made it through the scan without general anesthesia. That was if the family made the call. What if, the committee asked, a certified child life specialist was automatically involved with every pediatric referral where general anesthesia might not be needed, such as children over the

Certified child life specialist Mollie Young prepares a child for an MRI exam.

age of 5 for a scan one hour or less? This proposal received the enthusiastic support of department leadership. It was a natural fit for the evolving emphasis on patient- and family-centered care in pediatric MRI that included shorter tailored protocols for specific diagnoses, pre-scan family “meet-and-greets” by the pediatric radiologists and the purchase of a mock scanner for patient education. The mock scanner was made possible by a grant from The Women’s Board of the Johns Hopkins Hospital.

The results of this experiment are detailed in an article, “Mandatory child life consultation and its impact on pediatric MRI workflow in an academic medical center,” published by the *Journal of the American College of Radiology*. The authors determined that instituting mandatory child life evaluation avoided the use of general anesthesia in approximately 102 patients during a one-year period, resulting in a significant savings of professional time, patient risk and hospital resources.

What’s the magic? High-tech and high-cost distractions inside the scanner, like projectors and video goggles, and lots of practice on a dedicated mock scanner? No, says one of the paper’s co-authors, Mollie Young “just a telephone, email and Internet.” In a voice that still has the soft drawl of her Mississippi home, Young described how she makes the first phone contact with the parents and asks them about their child: How is his temperament? Is she cooperative, eager to please? Does he follow directions? How does she cope with stress? Her questions gradually paint a picture of the child and also put the parents at ease. Young can clarify their fears and debunk wrong information. She follows up with emails (all of the 800 or so families she has contacted so far have had email) and sends links to informational videos, even a link to a recording of the sounds that a scanner makes, which the parents and child can watch and hear together. As the parents begin to feel more prepared, their anxiety decreases, which in turn helps their child. One or two days before the appointment, Young follows up with another email that includes a map and parking information; she reminds them to arrive on time.

On the day of the scan, Young meets the family at the registration desk and shepherds them through the whole process. The parents often ask why they have to be there

a whole hour ahead of time. Young is an advocate for this so that there is no rush. “You can’t rush kids,” she says warmly. “They don’t process information as fast as adults.” Young uses that hour to build her relationship with the family and the patient, and determines whether coaching alone will get them through or whether the child might need some diazepam to reduce anxiety. Occasionally, her pre-visit conversations show that the child will need general anesthesia, but with the majority of her referrals, Young can determine that general anesthesia can be avoided. After the scan, Young meets the family again for a wrapup. She usually finds the child has a real sense of achievement, a feeling Young can amplify and share with the parents.

Young is quick to spread the credit to all MRI staff members, who she says routinely go out of their way to help the patients and make their families get comfortable. She recently participated in filming a short video about a pediatric patient’s MRI experience here at Johns Hopkins

You can’t
rush kids.

— Mollie Young

and is excited about the finished product. “It is so helpful to be able to show exactly what the patients will see when they visit.”

As the article supports, a single certified child life specialist using only standard procedures and resources can substantially reduce reliance on general anesthesia and can promote the success of nongeneral anesthesia exams. The child life specialist has come a long way from “the play lady” of the past and has an important role in today’s medical imaging. ■



To watch a video about a child’s MRI without anesthesia at Johns Hopkins, visit www.hopkinsmedicine.org/radiology/pediatric.

Learn more about pediatric radiology at Johns Hopkins or schedule an exam at 443-997-7237.



CONVERSATION SERIES 2015–2016

Innovative Concepts from Diverse Fields Provide Insight into the Patient Experience

Excellence doesn't just happen. We need to set goals and hold ourselves to these goals. That's what will create a perfect experience for patients from top to bottom.

—Elliot Fishman, M.D.

THE RUSSELL H. MORGAN DEPARTMENT OF RADIOLOGY AND RADIOLOGICAL SCIENCE

was proud to present the third installment of the Patient Experience Advisory Team Conversation Series 2015–16. The series was a follow-up to the successful programs in 2014 and 2015. Speakers, ranging from Ed Catmull (president of Disney and Pixar) to Horst Schulze (former CEO of Ritz-Carlton and current CEO of Capella Group) to Cindy Wolf (executive chef and restaurateur) to Marla Kaplowitz (CEO of MEC Inc.), challenged the audience to think differently. The 2015–2016 speaker series was equally amazing.

The speakers in the lecture series who represented a wide range of professional experience are listed at right. We welcome your questions and attendance at future lectures. **For more information, please contact Kia Harris at 410-955-5173 or kia.harris@jhmi.edu.** ■

All lectures are held in the Chevy Chase Bank Auditorium located in the Sheikh Zayed Tower, 1800 Orleans St., Baltimore, Maryland 21287. The conversations start promptly at 5 p.m. and are followed by a question-and-answer session.

Past speakers in the lecture series include:



Karen M. Horton, M.D.,
Professor and Interim Chair
Johns Hopkins Department of
Radiology and Radiological Science
“How to Improve Patient
and Employee Satisfaction:
Lessons Learned from
Leaders Outside of Medicine”



Jen-Hsun Huang,
Co-Founder, President and CEO of
nVIDIA
“From Gaming Machines to
Thinking Machines”



**William R. Brody, M.D.,
Ph.D.**
President and Professor Emeritus,
Salk Institute for Biological
Sciences
13th President and Professor
Emeritus of The Johns Hopkins
University
“Learning About Leadership by
Making Mistakes: A Personal
Journey”



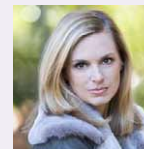
Mia Tinari,
Global Head of Marketing for TAIT
Towers
Founder of MCT Entertainment
LLC
“The Ability to Multitask
Effectively While Ensuring That
Each Customer Understands
That They Are the Priority”



Keith A. Grossman,
Bloomberg Media
“Change Management”



Nick Bayer,
Founder and CEO, Saxbys Coffee
“The Culture of Hospitality”



Anna Griffin,
SVP Corporate Marketing, CA
Technologies
“How to Develop a Quality
Program”

Radiology Is a Small, Small World: A Historical Vignette

by Bob Gayler

An enjoyable aspect of a career in radiology is finding connections between academic people and places. Paul C. Hodges was chairman of the radiology department at the University of Chicago from 1928 until 1958. He had at least four connections with Johns Hopkins, perhaps more. Hodges was a remarkable leader in our specialty and had several distinct phases in his long life.

Hodges was involved with the beginnings of the Peking Union Medical College while a medical student at the University of Wisconsin. Hopkins history buffs will recall that William Welch was also closely connected to this endeavor. World War I caused many disruptions in medical training throughout the world, and the same was true for Hodges. He returned to the United States following the war, finished his medical degree and returned to China after receiving special tutoring in radiology from Frederick Baetjer, then director of radiology at Johns Hopkins.

Hodges returned from China as director of radiology at the University of Chicago in 1928. One of his residents there in the late 1930s was Russell H. Morgan. Morgan's residency was disrupted by World War II, during which time he worked for the Bureau of Radiological Health in Washington, D.C. Morgan was a rising star and was recruited to Johns Hopkins by Alfred Blalock, with the strong recommendation from Hodges yielding connection No. 3.

The fourth Johns Hopkins connection is through his nephew, Fred "Ted" Hodges III, who was director of the neuroradiology division at Johns Hopkins from 1966 to 1981. Ted's father, Fred Jr., was two years younger than his brother Paul, and was probably influenced by his older brother to go into radiology. Fred Jr. chaired the Department of Radiology at the University of Michigan for 34 years.

Johns Hopkins benefited from Paul Hodges twice, and he benefitted from Johns Hopkins twice. A major "win-win" all around.



Clockwise from top left, Frederick Baetjer, Fred "Ted" J. Hodges, III, Paul C. Hodges, Russell H. Morgan

Carol Ann Flanagan Professorship in Breast Imaging

THE CAROL ANN FLANAGAN PROFESSORSHIP IN BREAST IMAGING was established in the Russell H. Morgan Department of Radiology and Radiological Science by Carol Ann and David Flanagan, and was celebrated in March 2015 at a dedication ceremony where Nagi Khouri was installed as the inaugural recipient. Ann shared: “We decided to make this gift in acknowledgement of the excellent care I received at Johns Hopkins, particularly from Dr. Khouri. We hope that this professorship will aid Dr. Khouri and his successors in the training of future radiologists of the same high caliber of skill and degree of compassion for their patients exemplified by Dr. Khouri. We trust that this will lead to ever-earlier detection and cure for future breast cancer patients.”

For more than three decades, Khouri has been a significant leader in breast imaging and is recognized nationally and internationally for helping to advance the science of breast imaging into a full-fledged specialty within the field of radiology.

More than 150 colleagues, family and friends attended the ceremony held in the Chevy Chase Bank Auditorium located in the Sheikh Zayed Tower on the Johns Hopkins East Baltimore campus. Khouri told guests, “I am honored to serve as the first recipient of the Carol Ann Flanagan Professorship. The Flanagans’ exceptional generosity will allow me to help advance my work here at Hopkins and around the globe.”

Khouri has had a distinguished career. He came to Johns Hopkins in 1971 to receive his residency training in diagnostic radiology. In 1975, Khouri was board certified in diagnostic radiology and joined the Johns Hopkins radiology faculty as

a chest radiologist. In 1986, deciding to focus all of his efforts on the areas of breast imaging and intervention, Khouri left Johns Hopkins to establish an independent diagnostic breast imaging facility—the Diagnostic Breast Center of Cross Keys in Baltimore. He became the first practitioner in Maryland to utilize image-guided breast biopsies. Khouri also developed programs for the East Baltimore Medical Clinic and the Department of Aging of Baltimore County. In 1995, Khouri’s private practice was incorporated into Johns Hopkins Imaging at Green Spring Station. He became the medical director of the Green Spring facility, where he focused on breast imaging and intervention with a patient-oriented approach. In 1998, he returned to the Johns Hopkins Radiology faculty full time. From 2002 to 2012, Khouri served as the director of breast imaging at The Johns Hopkins Hospital. He was instrumental



From left to right, Paul Rothman, Jonathan Lewin, David Flanagan, Ann Flanagan, Nagi Khouri, Sylvana Khouri and Ronald Daniels

in honing the services and expertise offered by the section, creating a top-rated program. Holding joint appointments in both radiology and oncology, Khouri plays a critical role as a member of the institution's multidisciplinary breast cancer team. In 2006 and 2007, he was voted among the Top 10 Women's Imagers by *Medical Imaging* magazine.

Khouri has participated in a number of research projects and publications. Particularly noteworthy are two pioneering studies—one related to the feasibility of intraductal administration of chemotherapeutic agents in patients with breast cancer, and a second referred to as the BEAM (breast estrogen and methylation) study, which attempted to identify women through breast sampling who are at higher risk than the general population for the development of breast cancer.

During his career, Khouri has shared his expertise in breast imaging with governments and organizations in many different parts of the world (Europe, the Middle East and South America), imparting guidance in everything from establishing comprehensive, multidisciplinary breast programs to the design of breast health facilities. He has served as an adviser to governments and nongovernment organizations in the Middle East, helping them to formulate strategies for increasing breast cancer

awareness, detection, diagnosis and treatment in that region of the world.

The dedication ceremony featured remarks from Ann Flanagan and Khouri, as well as from Jonathan Lewin, Professor Emeritus and former Chairman of the Russell H. Morgan Department of Radiology and Radiological Science; Ronald J. Daniels, the president of The Johns Hopkins University; and Paul B. Rothman, dean of the medical faculty and CEO of Johns Hopkins Medicine. Lewin told guests: "I am truly grateful for the Flanagans' generous philanthropic support of our mission. It is truly fitting that Dr. Khouri has been named as the inaugural holder of this endowed professorship. Both nationally and internationally, he has established himself as a prominent breast imager and specialist, known for clinical excellence as well as his passion for patient care and service. His interests go beyond breast imaging and touch all disciplines related to breast cancer. As a vital member of the Department of Radiology, Dr. Khouri contributes in many ways to the success of our Breast Imaging Section, to our department as a whole and to the field of breast imaging." ■



An Appreciation for the Business of Medicine

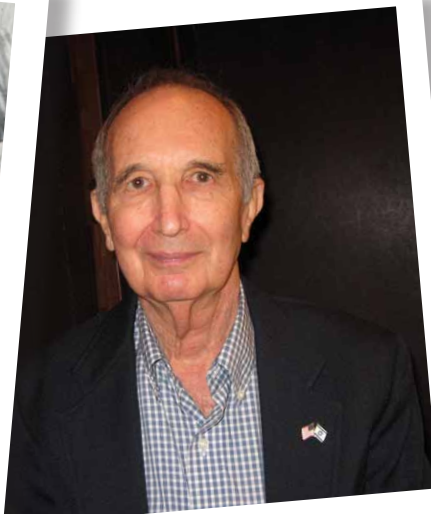
Much of what I've done and can do is a result of what I acquired at Hopkins. I feel responsible to give back, and this comes from my heart.

— Stanley Margulies

In establishing the endowed Stanley I. Margulies, M.D. Innovation Fund, Stan Margulies says, “Much of what I’ve done and can do is a result of what I acquired at Hopkins. I feel responsible to give back, and this comes from my heart.” Margulies is a Johns Hopkins alumnus and spent nearly a decade on the faculty of the Russell H. Morgan Department of Radiology and Radiological Science.

Born and raised in Baltimore, Margulies earned his bachelor’s degree from the Krieger School of Arts and Sciences in biochemistry in 1956 and his medical degree from the school of medicine in 1960. He was in the first Johns Hopkins class of students to be in the A.B./Master’s combined program. His father, Oscar Margulies, had been a student at the Whiting School of Engineering but had to leave his studies during the Depression due to economic conditions. Margulies followed in his father’s footsteps to Johns Hopkins, as did his younger brother Ben, who received his bachelor’s degree from the Whiting School of Engineering in 1960.

Margulies left the mid-Atlantic region to participate in a surgical residency at University Hospitals of Cleveland in Ohio in 1960. He then served in the United States Navy aboard the USS Valley Forge from 1962 through 1964 during the Cuban missile crisis. Margulies applied and was accepted to law school because he considered becoming an attorney working in medical



Photographs from left to right: Hilary Clinton and Jenny and Stanley Margulies in 1996 at a fundraiser in Hollywood, Florida; Stanley Margulies and Norman Braman, with Nancy and Ronald Reagan in 1980 at a luncheon in Beverly Hills, California; Stanley Margulies.

law. However, he decided to pursue a career in radiology, a specialty that he felt was the future of medicine.

Margulies returned to Johns Hopkins and completed his residency and fellowship in radiology alongside colleague Bob Gayler. He joined the faculty of the Russell H. Morgan Department of Radiology and Radiological Science and was the Director of the Cardiovascular Diagnostic Laboratory. Margulies was nominated to lead diagnostic radiology but instead left to continue his career in Florida. While at Johns Hopkins, he focused his research on swallowing disorders, familial dysautonomia and sickle cell disease.

In 1972, Margulies moved to Hollywood, Florida, where he grew a private radiology practice, Radiology Associates, from four to more than 35 radiologists. The practice supported four hospitals and two outpatient clinics in Broward County, Florida. Margulies retired in 1997 and the following year became senior vice president and national medical director of Navix Radiology System. For four years, he helped to oversee the acquisition of radiology practices from Massachusetts to Florida. Focused on the business of medicine, Margulies assisted these practices with their operations.

Throughout his career, Margulies has most enjoyed his clinical work in GI radiology and his administrative work managing practices. During his years with Radiology Associates, he developed the first cardiocatheter laboratory in south Florida and introduced one of the first CT scanners.

Margulies has a deep, lifelong commitment to the welfare of the state of Israel. It began while in college when he was active with the Democratic Party, helping the campaign for Adlai Stevenson for United States president. He has always

supported candidates who believed in the support of Israel. He became an ardent Zionist in 1967, when he toured Lebanon, Syria, Jordan, Egypt and Israel on a church tour. At the end of this trip, the Six-Day War occurred, also known as the Arab-Israeli War fought between Israel and its neighboring states of Egypt, Jordan and Syria. As an added attraction, Margulies was arrested in Damascus, Syria, for visiting a synagogue. He was interrogated for five hours before being released.

Margulies has been an active member of the American Israel Public Affairs Committee, serving on the national executive committee, and also involved with several pro-Israel organizations. He has also been active with the Republican Jewish Coalition. Throughout his life, he has crossed party lines to support both Democratic and Republican presidential candidates, depending upon their position on the state of Israel.

Stan's wife, Jenny, pursued a career in hotel management. The Margulies maintain homes in Florida, traveling between Hollywood and the Florida Keys. Margulies' daughter, Robin, is a school psychologist. She and her family live in New York. Margulies is pleased that the passion for patient care continues in the next generation of his family.

Jonathan Lewin, former radiology chairman, expressed gratitude to Margulies for his generous endowment, which will benefit the department now and in the future. Lewin commented: "Through his leadership experience managing radiology companies, Stan understands the business of medicine and what it takes to run a program of excellence. I am proud of our radiology alumni for investing in our future so we can prepare and launch the next generation of specialists in our field." ■

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