



# MRS NEWSLETTER

A Quarterly Publication of the Minnesota Radiological Society, Inc.  
A Chapter of the American College of Radiology

Annual Fall Meeting - November 1, 2008

Annual Spring Meeting - April 18, 2009

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## MRS Fall Meeting "Best Practices in Radiology: Part II"

The theme of the Fall MRS Meeting will build on the Best Practices Spring Meeting, and will be entitled, "Best Practices in Radiology: Part II". The meeting will be held on Saturday, November 1, 2008.

Speakers from the Mayo Clinic, Abbott Northwestern, Suburban Radiologic Consultants and the University of Minnesota will provide their perspectives and experience with best practices in CT colonography, evaluation of pulmonary nodules, body MRI and hospital radiology. Topics will also include surgeon – radiology interdependence in managing pancreatic disorders and an introduction of the "Image Gently" campaign focused on CT radiation doses in children.

The Carman Lecturer, C. Daniel Johnson, MD, FACR, will be presenting his talk "Translating Performance Improvement into Operational

Reality." Johnson comes to us from the Mayo Clinic, Arizona, and brings to us his experience as a graduate of the Carnegie Melon University's Masters of Medical Management Program.

The Fall Meeting will be held at The Saint Paul Hotel, at 350 Market Street, in downtown St. Paul. Parking can be found in the ramp adjacent to the hotel or the Lawson Ramp on 5th Street and Saint Peter. The customary Saturday morning format will be used, with registration and continental breakfast beginning at 7:00 am. Welcoming announcements will begin at 7:55 am, and the educational sessions will follow from 8:05 am to 1:00 pm. The MRS luncheon and semi-annual Business Meeting will be held from 1:00 to 2:00 pm. We look forward to seeing you there. This meeting will offer 4.0 hours of CME.

### Carman Lecturer: C. Daniel Johnson, MD, FACR



C, Daniel Johnson, MD, FACR

C. Daniel Johnson, MD, FACR, is currently Professor and Chairman of the Radiology Department of Mayo Clinic, Scottsdale. Johnson earned his BS from the College of Idaho in zoology and his MD from the Mayo Medical School in 1979. He completed a diagnostic radiology residency at Mayo in 1984. Thereafter, Johnson completed a two-year fellowship at Duke University in abdominal imaging in 1986. Lastly, he earned a Masters in Medical Management from Carnegie Melon University in 2004.

Johnson joined the Mayo Clinic Radiology Department as a Senior Associate Consultant in 1986, became a Consultant and Assistant Professor at Mayo in 1989, and rose to full Professor by 1997. In 2007, Johnson accepted the position of Chairman of the Radiology Department of the Mayo Clinic, Arizona. He was recently awarded Fellowship in the American College of Radiology in May 2008.

Excellence in diagnostic radiology has remained a significant interest of Johnson, who has served at the Mayo Clinic as the Chair of the Quality Oversight Committee (in the Department of Radiology), the Vice-Chair of the Mayo Rochester

...Carman Lecturer continued to p. 3



David R. Eckmann, MD, FACR

## President's Message:

# The Road Ahead...

By David R. Eckmann, MD, FACR

Uncertain times – in the economy, in politics, and in radiology. All are affecting

us now, and certainly will into the foreseeable future. We can drift along buffeted by the currents (and storms), or we can chart a course, increasing the likelihood that our futures will be as promising as our past. The MRS and ACR must be positioned to carry us forward.

This year I would like to focus the MRS activities in three main areas: Radiation safety and CT dose reduction, political and economic issues, and outreach.

### Radiation Safety

There has been much attention in the press over the last year regarding radiation dose from imaging. The MRS began to address this issue at the Spring 2008 meeting “Best Practices in Radiology.” Minnesota is fortunate to have a number of outstanding physicists with considerable expertise in radiation dose. They are a resource we should utilize in bringing our state to the forefront of radiation dose reduction. Look ahead for practical information and resources to be made available, including pieces in the MRS newsletter. If anyone is interested in working on this issue, please contact me.

### Political/Economic

After experiencing the aftermath of the DRA, we know all too well the consequences of legislation affecting reimbursement. The threat of further cuts to imaging reimbursement looms large. The economic viability of many services is now in jeopardy, while access to these services by patients may become an even larger problem. To better address political and economic concerns, the MRS is activating the Political and Economic Committee. Ideas under consideration include engaging a lobbyist on behalf

of the MRS to address legislative issues on the state level, coordination of political involvement and activities, and the possibility of forming a PAC. We are looking for broad representation from among the varied practices across the state. Anyone interested in becoming a member of this committee should contact me. We will also be looking at ways to better inform MRS members of the critical political and economical issues, and how they can best respond. Finally, we are looking to increase support for RADPAC – the political voice for radiology.

### Outreach

With all of the challenges ahead of us, we must make sure that the MRS is strong and vibrant. One important way to achieve this is to support the Residents and Fellows section. Well-trained and engaged younger radiologists are critical to the future success of radiology. The MRS is organizing an initiative to send all first year residents to the ACR annual meeting in May 2009. This is a pilot project with the ACR to look at the effect of early involvement in organized radiology on future engagement. Not only does this have the support of the Mayo Clinic and University of Minnesota training programs, but is also being supported by many in private practice. Please consider your support with a monetary contribution or a donation of frequent flyer miles. For further information, contact Kevin Smith at: [ksmith@rdradiology.com](mailto:ksmith@rdradiology.com).

Support of academic radiology in Minnesota is also crucial. Recently, a number of private practices joined together to sponsor a breast imaging Fellowship position at the University of Minnesota. We should continue to look for ways to support our research and training programs. The MRS newsletter will contain updates on important issues and developments at both the Mayo Clinic and the University of Minnesota.

Radiation oncology is also an area for outreach. In recent years, membership and participation in the MRS by radiation oncologists has decreased. However, on the national level, the ACR continues to work with and represent radiation oncology, and is recognized as a strong force in the political arena. The Spring 2009 meeting will feature oncologic imaging, and will be an opportunity for both “houses” of radiology to work together.

Outreach also means reaching out to radiologists who are not MRS or ACR members. We need only a relatively small number of additional members to increase our representation at the ACR. If you are aware of members of your practice or know of other Minnesota radiologists who are not members, encourage them to join and support the organizations that do so much to enhance our professions lives.

The MRS will also be inviting radiologists from neighboring states to attend our fall and spring meetings.

On a final note, to better organize the MRS, the committee assignments are being updated. We need new people to become involved. If you have an interest in serving on any committee, be it Education, Economic/Political, or any of many other possibilities, please contact me at [deckmann@stpaulrad.com](mailto:deckmann@stpaulrad.com). See the enclosed directory for some of the opportunities available.

I look forward to the coming year, with both its opportunities and challenges. In working together, we can make the MRS an even stronger and better organization – to serve our patients and to bring the practice of radiology forward in a new era.

*David R. Eckmann, MD, current MRS President, practices with St. Paul Radiology.*



Pat Juenemann, MD, FACR

## The 2008 Intersociety Summer Conference “Ensuring Patient Safety”

By Patrick Juenemann MD, FACR

The Intersociety Conference has been held annually since 1979, with the mission “to establish communication among the leadership of national radiological societies.” The 2008 Conference was held in

Lake Tahoe, CA, on July 18–20, 2008, with the topic of “Ensuring Patient Safety”. Approximately 65 physicians and administrators attended, representing 36 different Radiology Societies and organizations. The conference was moderated by N. Reed Dunnick, MD, FACR. I represented private practice members of the ACR.

Many lectures were given on the topic of patient safety. Three main work groups were set up: Ionizing Radiation, Magnetic Resonance Safety, and Quality Improvement. Each group presented a report on their topic with specific recommendations to the ACR. The reports of all three groups were combined and presented to the group by Reed Dunnick. Several of the findings, recommendations and challenges identified are summarized below.

### **Ionizing Radiation:**

Several challenges were identified, to include measurement of individual patient doses, unavailability of patient’s prior imaging history and a litigious environment. Further, rising imaging demand has led to over-utilization, greater radiation exposure and incidental findings which may lead to further testing (and radiation). All these factors make it difficult to balance radiation risk to a specific patient (and society as a whole) with potential benefit.

### **Magnetic Resonance:**

MR has become a widely used imaging resource, with increasing out-patient availability. Increased utilization has made potential hazardous outcomes with implantable devices more frequent. These two trends suggest a need for MR accreditation requirements and implantable device compatibility standards, and a central registry for these devices. MR is considered safe at 1.5T during pregnancy, 3.0T is unknown. Nephrogenic Systemic

Fibrosis (NSF) was discussed and it was agreed we had little to add to the current state of the art.

### **Continuous Quality Improvement:**

The ACR does an excellent job advancing Quality Improvement and national initiatives are available, yet these need be extended further to the state, local and individual practice level. There is a need for national registries to benchmarking data, such as radiation dose per exam, contrast dose per exam and cumulative radiation dose.

### **Specific recommendations included:**

Continue with the current formal ACR recommendations outlined in the Manual on Contrast Media, the Guidance Document for Safe MR Practices and the Appropriateness Criteria. There is interest to engage the ACR further in several areas, to include ACR involvement in developing guidelines for contrast use (as a drug), development of MR accreditation standards, further communication with membership regarding quality and safety initiatives and presentation of non-ACR patient safety documents on ACR website.

There is a need for improvement of order entry to specifically address appropriateness of a given exam, and this exam’s associated radiation dose. Further, documentation of prior exams are needed, which relates directly to cumulative (or lifetime) radiation exposure. Radiation risks need to be understood by referring physicians, patients and radiologists in terms of common adverse events. Research is needed to quantify the benefits of imaging, which will then allow for a more meaningful risk/benefit discussion of imaging for a given patient, and society as a whole.

The meeting was very interesting and productive. Several improvements and advances in patient safety should arise from the work and recommendations of the Conference. It was my distinct pleasure and honor to attend this year’s Conference.

*Pat Juenemann, MD, Past President of the MRS (2003-2004), practices at Suburban Radiologic Consultants.*

### *..Carman Lecturer continued from p. 1*

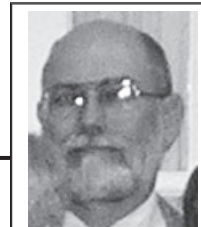
Clinical Practice Quality Oversight Committee and the Co-Chair of the Safety Leadership Team. He has co-chaired or chaired three quality CME events for the ACR, including the first national think tank on improving radiology quality,

the Sun Valley Group and Pay for Performance. He is also active in supporting education in quality improvement for the RSNA. Johnson has continued his interest in quality and safety as he builds a new quality program in Radiology at Mayo

Clinic Arizona. This, added with his Masters in medical management provides the MRS a wonderful opportunity to have Johnson give the Carman Lecture entitled “Translating Performance Improvement into Operational Reality.”

# The Alliance for Radiation Safety in Pediatric Imaging: The Image Gently Campaign

By E. Russel Ritenour, Ph.D.



Russel Ritenour, Ph.D.

The Alliance for Radiation Safety in Pediatric Imaging was founded in 2007 and had its first meeting at RSNA. Its first goal is to raise awareness, particularly among non-radiologists, about radiation doses to pediatric patients undergoing CT scans. If a child is placed in a CT scanner and adult protocols are used, the child will receive a higher dose than an adult, but the image will appear to be of acceptable quality. That is, it will not appear "overexposed". Radiologists have been aware of this for some time, and many groups have altered their pediatric CT protocols. But, as of 2007, many referring physicians and non-radiology owners of CT scanners were not aware of the problem.

The problem is compounded by the fact that children are significantly more radiation sensitive than adults. Exposure early in life to radiation doses that are even lower than those received during a CT scan, leads to a measurable increase in cancer incidence as people age into their fifties and sixties. A study from the Radiation Effects Research Foundation published in March of this year showed that exposure in utero (n=2,452) and as a child (< 6 yr, n=15,288) is associated with a significantly increased risk of fatal cancer as an adult.<sup>1</sup> Even older children are affected. A study of scoliosis patients (mean age at exposure 10.6 years, mean dose 0.11Gy, n=4,822) followed into adulthood, found 70 cancers compared to 35 in a control group.<sup>2</sup> The National Academy of Science's most recent report on the "Biological Effects of Ionizing Radiation" summarizes the available data as follows: Radiation exposure in the first year of life for boys produces three to four times the cancer risk as the same exposure between the ages of 20 and 50.<sup>3</sup> For girls, the risk is six to eight times greater. For children of all ages, the risk is approximately

three times greater. The data are in and they are not extrapolations from higher levels of exposure. They are real.

The four founding members of the Alliance are the Society for Pediatric Radiology, the American Association of Physicists in Medicine, the American College of Radiology, and the American Society of Radiologic Technologists. I am the AAPM's liaison to the Alliance. Since 2007, many organizations that are concerned with pediatrics or imaging, 24 in all, have become affiliate members. Because of this, the Alliance can say that it speaks for over 600,000 physicians, medical physicists, and technologists.

On January 22, 2008, the Alliance kicked off the "Image Gently Campaign". This included editorials, articles and posters, which admonished people to "child-size CT scans" that appeared in the AJR, the Journal of Pediatric Radiology and publications of the ACR, AAPM, and ASRT, and articles and public service announcements in trade publications. This year and next the emphasis is on working through the American Medical Association to spread the word to other specialties. The most significant accomplishment to date has been the establishment of the "Image Gently" website funded by donations from the founding societies and from medical equipment vendors. The website ([www.imagegently.org](http://www.imagegently.org)) delivers the message that CT saves children's lives. But when CT is the right thing to do, patient dose should be lowered: by "child sizing" the kV and mA, by scanning only the indicated area, and by removing multiphase scans from the pediatric protocol. Pre- and post-contrast, and delayed CT scans rarely add additional information in children, yet, can double or triple the dose. The website also contains a downloadable worksheet that allows you to determine the technique factors that will

ensure that the pediatric dose on your scanner is no higher than the adult dose. Input for the worksheet is a series of measurements made on your CT scanner by a medical physicist.

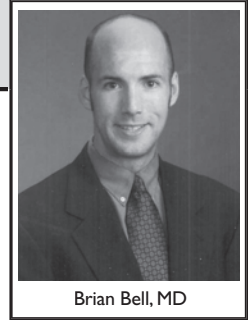
On August 20, 2008, the Alliance held a summit meeting with the vendors of CT equipment at Cincinnati Children's Hospital. It was recognized that there is widespread confusion over just what the dose is in CT. The various CT dose indices and quantities such as dose length product (DLP) are confusing to CT users. The vendors agreed to make their own measurements on a series of anthropomorphic phantoms representing children of different sizes. These phantoms will have much more realistic absorption and scatter characteristics than the standard homogeneous plastic phantoms used by medical physicists to measure the indices. The vendors will then display the actual patient dose in mGy. They will also give the indices and DLP measured in the standard phantoms when each protocol is used so that medical physicists can determine if the equipment is performing as designed.

Over the next few years, the Alliance plans to branch into pediatric dose reduction in other areas. The next area will be nuclear medicine. However, pediatric CT was clearly the "low hanging fruit" that we wanted to go after first. In some cases pediatric dose may be reduced by as much as 50% with no reduction in image quality. Even greater dose reductions are possible if the viewer is willing to tolerate an increase in noise in the image. For instance, greater noise will not decrease observer performance in high contrast imaging situations such as bone imaging or verification of tube placement. Vendors have encouraged

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# U of M Resident Update

By Brian Bell, MD



Brian Bell, MD

The past summer has been an exciting time for the residents at the University of Minnesota. The first year residents are getting acclimated to the reading rooms and attending introductory lectures. The second and third year residents have just completed the physics and written board examinations. The fourth year residents are already looking ahead toward the oral boards this spring and the start of fellowships across the United States.

The University of Minnesota has welcomed several new staff members into the Radiology Department. Notably, Dr. Jafar Golzarian headed north from the University of Iowa to head the Department of Interventional Radiology. Each of the new faculty has brought new ideas and energy to the various sections in our department.

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groups to post any imaging protocols that they have found to significantly reduce dose while maintaining adequate image quality.

So, that's it. We have a clear problem with a clear solution. We need to convince our colleagues in other fields to "child size" their scans, to be comfortable with a moderate noise increase in some situations, and to order CT scans correctly, according to the Appropriateness Criteria of the ACR. OK, so maybe it won't be that easy, but we're off to a good start.

Please join me at the Fall MRS Meeting for a more in-depth discussion of these issues with a chance for Q and A!

1. Preston DL, et al. Solid Cancer Incidence in Atomic Bomb Survivors Exposed in Utero or as Young Children, Journal of the National Cancer Institute Advance Access, March 11, 2008.
2. Doody et al. Spine 25:pp2052-2063, 2000.
3. National Academy of Sciences Committee on Biological Effects of Ionizing Radiation Report VII: Health Risks from Exposure to Low Levels of Ionizing Radiation, National Academies Press, June 29, 2005.

The faculty is in the process of mentoring several new research projects in which first and second year residents are involved. Dr. David Hunter is in the midst of delivering a series of lectures to the first year residents on research methods, opportunities and funding.

The University hospital has installed a new SPECT CT machine and Hennepin County Medical Center recently added a 256-slice CT scanner. The Center for Magnetic Resonance Research (CMRR) has also received funding to double its size and install a cyclotron. This new equipment has added powerful tools

to an already impressive diagnostic armamentarium.

With the faculty shortages now gone and new equipment in place, the diagnostic radiology residency program at the University of Minnesota is set to regain its reputation as one of the best in the country.

*Brian Bell, MD, serves as the Chair of the MRS Residents Section and is a Diagnostic Radiology resident at the University of Minnesota.*

# Mayo Resident Update

By Shannon Zingula, MD



Shannon Zingula, MD

The leadership of the Radiology Residency Program at the Mayo Clinic has recently changed, with Drs. Kristen Thomas and Timothy Welch assuming the roles of program directors of the residency program in March 2008. Mayo Clinic Radiology has increased the size of its residency classes to 13. There are currently 15 fellows, with the goal to add more fellowship positions in the future.

With the upcoming changes to the radiology board exams, changes are in store for the Mayo Clinic Radiology Residency Program curriculum. The didactic lecture series will be re-vamped, creating a series of approximately 200 didactic lectures covering all of the radiology subspecialties and radiation physics. The new didactic lecture series began in August 2008 and has been very well received by residents.

The Mayo Clinic Department of Radiology has undergone remodeling. As of August 2008, the Carman Library has a new location, is with windows and a lovely view! Additionally, a new resident study area has been completed adjacent to the new Carman Library. It provides a common area for all levels of residents and fellows to interact and study. There are multiple computers and study carrels, a large open gathering space, and a big screen plasma TV to use for teaching sessions.

A new pediatrics out-patient floor opened at Mayo Clinic in September 2007. The new facility provides both general and specialty pediatric care within one location for patients. Pediatric radiology services are also located within the new facility, providing convenient access to imaging for patients and referring clinicians.

*Shannon Zingula, MD, serves as Vice-chair of the MRS Resident Section and is a Diagnostic Radiology resident at the Mayo Clinic.*

# Medicare Carrier Advisory Committee Update

By Patrick Juenemann MD, FACR

CMS (Medicare) has delayed awarding the new MAC (Medicare Administrative Contractor) for our region. We were scheduled to transition to the new payer system, from the old part A and part B system, several months ago. The new MAC system will have a single payer for both parts. It will likely be WPS (Wisconsin Physician Services) or Noridian.

The CAC continues to transition old LCDs (local coverage decisions) to the new system and these past few months were busy for radiology. Four major policies were brought to the CAC. They are:

- **Noninvasive Vascular Testing (N.I.V.T.) (CV-033)**
- **Bone Mass Measurement (MS-004)**
- **Magnetic Resonance Imaging (RAD-024)**
- **Computerized Tomography (CAT Scans) (RAD-033)**

These are important policies for radiologists, especially CT and MR, as they cover much of what we do. I used this opportunity to ask for several new payable codes for each of these policies. They are still in draft form and I expect many of the requests to be added. No new policies have been brought forward for over a year in anticipation of the change to the MAC system.

PQRI (Physician Quality Reporting Initiative) is a Medicare program that offers an incentive to all physicians to participate. This is currently a voluntary program, but I believe it will be mandatory in a few years. Last year only 20% of all physicians nationally participated. In 2007 and 2008, up to 1.5% of all Medicare allowables could be received as a bonus for reporting specific information on selected studies. This has been increased to 2% in 2009. If your practice does not already participate, you should strongly consider becoming involved. The bonus incentive is an obvious reason to participate, but I also believe these will become penalties in the future. CMS just announced a penalty for failure to comply with a small part of the PQRI program. This will spread to the whole program eventually. See below:

- The Medicare Improvement for Patients and Providers Act (MIPPA) raised the PQRI incentive payment to 2% of the physician's fee schedule amounts for 2009. MIPPA provides a separate 2% incentive payment for providers who electronically prescribe prescriptions.
- A 2% incentive payment is available in 2010. In 2011 and 2012, the incentive drops to 1%. In 2013, the incentive drops to .05%. Providers not successfully reporting the e-prescribing quality codes will receive a 1% penalty possibly beginning in 2012. The reduction is per allowed service. The 2013 deduction is 1.5% and 2014 is a reduction of 2%. There is a press release on the CMS Website regarding this at <http://www.cms.hhs.gov/center/press.asp>.

## UM to host RSNA Alumni Reception

6:30-9:00pm, 12/1/2008

Ogden Room, Hyatt Regency, Chicago

Hors d'oeuvres and cash bar

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