The Report

News from the MRS

A quarterly publication of topics and events relevant to radiologists, radiation onocologists, and medical physicists that practice in Michigan.

In this Issue

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As 2025 comes to a close, the Michigan Radiological Society reflects on a year defined by connection, advocacy, and meaningful organizational progress. Throughout the year, MRS remained highly active—strengthening community, supporting trainees, advancing legislative priorities, and investing in long-term strategic planning to position the Society for the future.

Community & Member Engagement

In 2025, MRS leaned into connection and conversation—bringing members together in relaxed, welcoming settings that encouraged people to slow down and actually enjoy being together. The year began with strong trainee engagement at the Spring Summit, followed in the fall by two well-attended member mixers in Grand Rapids and Detroit, which served as a meaningful alternative to a traditional fall conference.

The mixers brought practicing radiologists together alongside residents, fellows, and medical students, creating a vibrant, cross-generational atmosphere that reflected the full breadth of the radiology community. With good food, great conversation, and a laid-back vibe, these gatherings encouraged informal mentorship, open dialogue, and relationship-building across practice settings and career stages. The strong turnout and positive feedback reinforced the value of connection-focused events and highlighted members' enthusiasm for opportunities to engage outside of formal meeting environments.

Resident & Medical Student Engagement

Supporting the future of radiology remained a priority in 2025. MRS hosted a successful Resident Meeting in conjunction with the Spring Summit, providing residents with opportunities for discussion, networking, and engagement with Society leadership.

In addition, MRS held two medical student events during the year, continuing efforts to introduce students to the field of radiology, highlight career pathways, and foster early professional connection. These initiatives reflect MRS's ongoing commitment to pipeline development, mentorship, and early engagement.

Spring Summit

The 2025 Spring Summit, held in conjunction with the 88th Annual Preston M. Hickey Memorial Lecture, served as a cornerstone event for Society business, scientific exchange, and trainee engagement.

The program featured expert speakers, including Christoph Wald, MD, PhD, MBA, FACR, and Chad Klochko, MD, as well as a dedicated AI Panel highlighting emerging technologies. The meeting also included abstract presentations, Society business sessions, Board transition activities, and recognition events including the Foundation Award and Gold Medal Presentation.

Legislative Affairs & Advocacy

Advocacy was a major focus of MRS activity in 2025. The Society remained actively engaged in legislative affairs, working to protect physician-led radiology and uphold high standards of patient care in Michigan. Key advocacy efforts included continued work addressing scope-of-practice issues, including opposition to inappropriate expansion of non-physician provider roles in medical imaging, ongoing engagement with state and national partners on legislation impacting radiology, and sustained support of the miRadiologists.com public awareness campaign. These efforts reflect MRS's commitment to advocacy that protects patients, supports physicians, and safeguards the integrity of radiologic care.

Committee Work & Strategic Focus

Significant progress occurred across multiple Society priorities in 2025, including the reinvigoration of the AI Committee, continued emphasis on radiological safety, and ongoing work in membership, education, and communications.

MRS also engaged in active strategic planning, with a forward-looking focus on the Society's priorities and direction over the next five years. Behind the scenes, substantial effort was devoted to strengthening internal operations, supporting Board and committee activity, and aligning resources to ensure long-term sustainability.

Coming in 2026

MRS enters 2026 with renewed momentum and several exciting initiatives designed to expand education, engagement, and member value:

- Launch of a new interactive MRS Job Board, designed as a comprehensive career hub for radiologists across Michigan
- Introduction of a searchable MRS member directory directly on the Society website
- Educational webinars offered jointly with the American College of Radiology
- A robust Breast Imaging Conference planned for November 2026
- The return of the Spring Summit in April 2026, including a dedicated Resident Conference

These initiatives reflect the Society's long-term strategic planning and commitment to delivering relevant, high-value programming for members at every career stage.

Looking Ahead

The work accomplished in 2025 positions the Michigan Radiological Society well for expanded offerings and renewed momentum moving forward.

The Michigan Radiological Society thanks its members, volunteers, Board, and partners for their continued dedication and engagement. Your involvement remains essential to the strength and future of our profession. Together, we move forward—connected, engaged, and focused on what's next.

Pediatric patients are particularly sensitive to ionizing radiation, making dose optimization in CT essential. The 2018 Radiographics article by Nagayama et al. (2018) provides a comprehensive overview of strategies to minimize radiation exposure, focusing on **low tube voltage (kVp) and iterative reconstruction (IR)**. This summary highlights clinically relevant recommendations and key imaging examples.

The most effective dose reduction is **avoiding unnecessary CT**. Clinicians should first determine whether CT is indicated, guided by established clinical algorithms such as the Pediatric Emergency Care Applied Research Network (PECARN) criteria for minor head trauma (link of MDCalc is provided below). When imaging is justified, alternative modalities like **ultrasound or MRI** should be considered, as they do not involve ionizing radiation.

When CT is necessary, **low tube voltage and IR** are effective techniques to reduce dose while preserving diagnostic quality. Radiation output increases with the square of tube voltage but only linearly with tube current; thus, small reductions in kVp substantially reduce dose. For example, reducing tube voltage from 120 kVp to 100 kVp or 80 kVp lowers radiation dose by approximately 33% and 65%, respectively. Lower kVp also enhances contrast for denser materials such as calcium and iodine due to the photoelectric effect, making contrast medium particularly useful in pediatric patients. However, lower kVp increases image noise and may exacerbate streak artifacts from metal (example of Figure 17 from the article is provided below).

Iterative reconstruction (IR) mitigates the increased noise associated with low kVp. Unlike traditional filtered back projection (FBP), which directly converts projection data into an image but amplifies noise at low doses, IR starts with an initial image guess and iteratively refines it by comparing simulated projections to measured data. This process improves image quality, especially at reduced radiation doses. Nagayama et al. provide examples showing improved diagnostic quality with IR at lower kVp, as well as a table comparing vendor-specific IR techniques (Table 3 and Figure 2 provided below).

In summary, the combination of **low tube voltage and iterative reconstruction** offers a practical, evidence-based approach to minimize radiation exposure in pediatric CT while maintaining diagnostic utility.

PECARN MD calc link for **minor head trauma**:https://www.mdcalc.com/calc/589/pecarn-pediatric-head-injury-trauma-algorithm

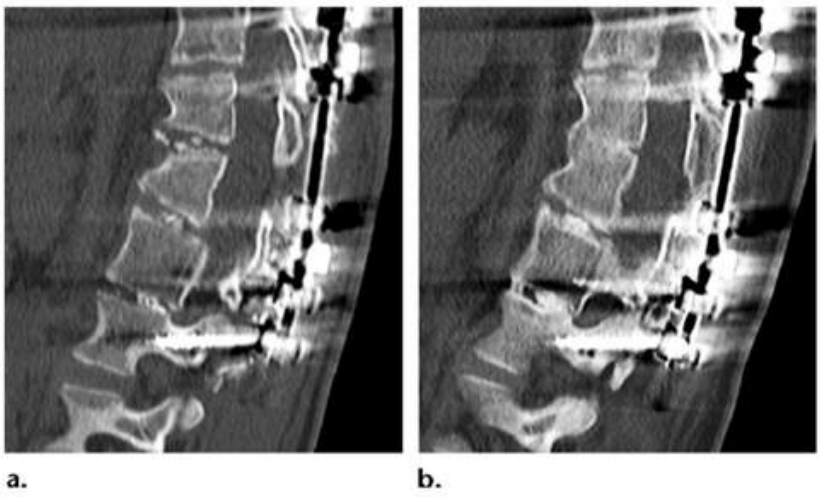

Figure 17. Two CT examinations (1-year interval) after placement of a metallic device for idiopathic scoliosis in a boy. Sagittal CT images acquired at 120 kVp (CTDI Vol was 8.1 mGy) when the boy was 12 years old (a) and at 100 kVp when he was 13 years old (5.7 mGy) (b) show that artifacts from the metallic device are significantly accentuated on the 100-kVp image.

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Table 3: IR Algorithms for Each Vendor

Vendor and Algorithm	Features
GE Healthcare	
ASIR	IR blended with FBP in 10% increments based on system statistical and object modeling
ASIR-V	Improved version of ASIR, based on advanced physics modeling in addition to statistical noise and object modeling
Veo	Model-based IR incorporating an extensive model of acquisition process including system optics
Siemens Healthineers	
IRIS	Iterations performed only in the image space on the basis of an initial image reconstructed from raw data
SAFIRE	Two different iterative loops (corrections at raw-data space for artifact removal and image space for noise reduction)
ADMIRE	Modified version of SAFIRE with advanced statistical modeling and weighted FBP in an iterative loop
Philips Healthcare	
iDose[4]	Iteration performed on both raw-data space with statistical noise modeling and in image space to avoid an artificial appearance
IMR	Knowledge- and model-based IR incorporating statistical noise and system optic modeling
Canon Medical Systems	
AIDR	Iteration performed only in the image domain for noise reduction
AIDR3D	Iteration performed in raw data and image space on the basis of statistical noise and system optic modeling
FIRST	Full model-based iteration performed with a data fidelity part on forward projection models and a noise penalty part

Note.—ADMIRE = advanced modeled IR, AIDR = adaptive iterative dose reduction, ASIR = adaptive statistical IR, FIRST = forward-projected model-based IR, IMR = iterative model reconstruction, IRIS = IR in image space, SAFIRE = sinogram-affirmed IR, 3D = three-dimensional.

Table 3 from Nagayama et al. showing different vendors and their IR features.

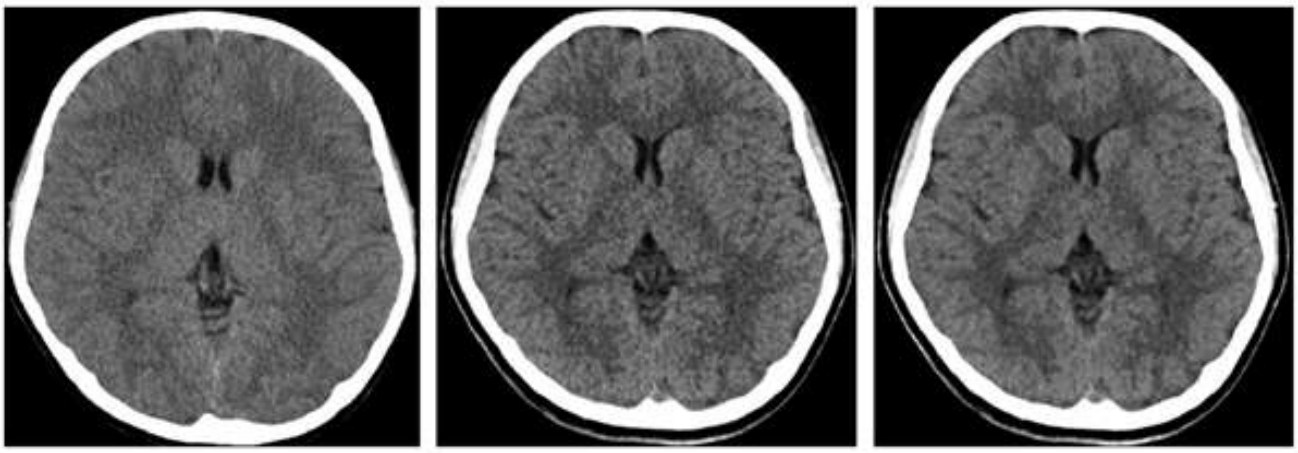

Figure 2 from Nagayama et al. shows evaluation of acute headaches in a girl who underwent two CT examinations, with a 3-year interval. (a) axial CT image acquired at 120 kVp (CTDI vol, 60 mGy) and reconstructed with FBP shows the girl at 12 years old. (b, c) Axial CT images acquired at 100 kVp (30 mGy) and reconstruction with FBP (b) and SAFIRE (c) show the girl at 15 years old. Gray matter to white matter contrast is improved at 100 kVp, because of greater photoelectric effect, whereas the IR technique is used to compensate for increased noise.

Reference

Yasunori Nagayama, Seitaro Oda, Takeshi Nakaura, Akinori Tsuji, Joji Urata, Mitsuhiro Furusawa, Daisuke Utsunomiya, Yoshinori Funama, Masafumi Kidoh, and Yasuyuki Yamashita RadioGraphics 2018 38:5, 1421-1440

- Neuroradiology Commission American College of Radiology
- Michigan Radiological Society
- California Radiological Society

ARIA (Amyloid-Related Imaging Abnormalities) in Focus:

(Imaging Criteria, Reporting Recommendations, and Case-Based Insights

January 6, 2025

8:00 PM - 9:00 PM

WEBINAR Zoom Webinar - Register Below

REGISTER NOW

Introducing ARIA

GREG ZAHARCHUK, M.D., PH.D.

Professor of Radiology (Neuroimaging and Neurointervention)

TAMMIE BENZINGER, M.D., PH.D.

Hugh Monroe Wilson Professor of Radiology
Chief, MRI Service
Professor of Neurosurgery, Biology and Biological Sciences

ANA M. FRANCESCHI, M.D., PH.D.

Associate Professor, Donald and Barbara Zucker School of Medicine at Hofstra/Northwell

Moderator

GAURANG SHAH, MD, FACR

Professor of Radiology, Associate Chair, Faculty Development Director, Functional Magnetic Resonance Imaging (FMRI) University of Michigan

Agenda
8:00 PM – Welcome and Introductions: John Jordan, MD, FACR, Gaurang Shah, MD, FACR
8:05 PM – Introducing ARIA – Greg Zaharchuk, MD, PhD
8:20 PM – ARIA Case Vignettes – Tammie Benzinger, MD, PhD
8:35 PM – Amyloid PET Quantification in the Clinical Setting – Ana M. Franceschi, MD, PhD
8:50 PM – Live Q&A

Jointly Provided By:
Postgraduate Institute for Medicine
Michigan Radiological Society

In support of improving patient care, this activity has been planned and implemented by the Postgraduate Institute for Medicine and Michigan Radiological Society. Postgraduate Institute for Medicine is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Physician Continuing Medical Education
The Postgraduate Institute for Medicine designates this CME activity for a maximum of 1 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This webinar is free of charge.
This activity has no commercial support.

REGISTER NOW

Coming Soon:
The New MRS Job Bank

Launching in 2026, the new MRS Job Bank will be a dynamic, member-focused career hub designed specifically for radiologists in Michigan. More than a traditional job board, this new platform will connect members with statewide opportunities while offering deeper insight into career trends, practice environments, and workforce needs. Built to support informed career decisions and stronger connections between radiologists and employers, the MRS Job Bank will become a go-to resource for career planning and professional growth. More details will be shared soon as this exciting new member benefit comes online.