



Congress Review

Review of the European Congress of Radiology (ECR) 2026

Location:	Vienna, Austria
Date:	4 th –8 th March 2026
Citation:	EMJ Radiol. 2026;7[1]:10-22. https://doi.org/10.33590/emjradiol/G7U21UEW

THIS SPRING, Vienna, Austria, once again took centre stage as it welcomed the global radiology community for the European Congress of Radiology (ECR) 2026. Drawing a growing international audience, with participation rising by 9% and more than 11,000 abstracts submitted, this year's Congress highlighted both the scale and momentum of a specialty at a pivotal moment of transformation.

Opening in spectacular fashion, the ceremony blended science with artistry, as a live performance of 'O Fortuna' by the Vienna Art Orchestra and Neue Wiener Stimmen Choir, accompanied by a striking light display, set the tone for a congress built around this year's theme: 'Rays of Knowledge'. As the final notes gave way to rapturous applause, Congress President Minerva Becker took to the stage, introducing a concept inspired by Athena, the Greek goddess of wisdom. Drawing on the symbolism of Athena's owl, Becker reflected on radiology's unique ability to illuminate what lies beneath the surface, "Radiologic imaging reveals otherwise hidden anatomical structures, and allows us to distinguish between normal and pathological findings."

Framing her address around the future of the discipline, Becker positioned radiology at a critical crossroads. While some may view the modern radiologist as a figure confined to image interpretation, she firmly rejected this notion, emphasising the specialty's identity as a clinical discipline. For Becker, the true value of radiologists lies not only in reading images but in answering complex clinical questions, contributing to multidisciplinary

care, and fostering meaningful interactions with both colleagues and patients.

This perspective is set against a backdrop of rapidly increasing demand. Imaging volumes have risen dramatically across Europe, with Becker noting a 33% increase in Switzerland alone over the past decade, far outpacing workforce growth. As a result, radiologists now face mounting reporting burdens and workforce shortages, becoming, in her words, "victims of their own success."

Amid this pressure, AI emerged as both a challenge and an opportunity. Already embedded in image acquisition and workflow optimisation, AI has contributed to rising volumes but also holds promise in alleviating workload through automation of high-volume, low-complexity tasks. Becker urged a balanced and critical approach, highlighting unresolved questions surrounding clinical integration, ethical responsibility, training, and the risk of deskilling. While some fear a future of automation and obsolescence, she instead called for a reframing of the radiologist's role, one that recognises the breadth of contributions beyond reporting, from ensuring diagnostic quality and safety to providing essential clinical insight.

“Our purpose is to diagnose disease, sometimes to treat it, and always to engage with patients and clinical partners,” Becker stated, reinforcing that technological advancement does not diminish the specialty’s core mission. Rather, she argued, it offers an opportunity to reclaim time for higher-value, patient-centred activities.

The congress theme resonated strongly throughout the opening session, extending beyond radiologists to the wider imaging community. Patrizia Cornacchione, President of the European Federation of Radiographer Societies (EFRS), welcomed over 1,500 radiographers in attendance, highlighting the essential partnership between radiographers, radiologists, and allied health professionals. Emphasising interdisciplinarity as “the key to quality, innovation, and patient safety,” she noted the importance of collaboration in translating technological advances into meaningful patient outcomes.


The ceremony also celebrated the human dimension of the specialty. A short film featuring young radiologists offered an optimistic perspective on the future, showcasing passion, curiosity, and a strong sense of purpose among the next generation. Their voices stood in contrast to narratives of uncertainty, reinforcing confidence in radiology’s continued evolution.

Recognition of excellence remained a cornerstone of the evening, with the presentation of the European Society of Radiology (ESR) Gold Medals.

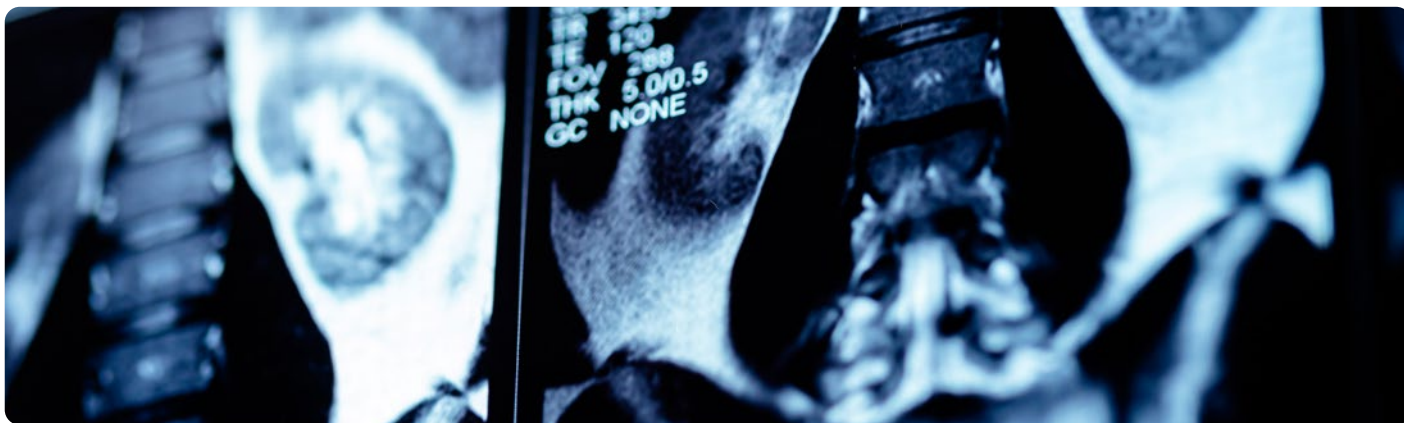
Honourees included Regina Beets-Tan, Netherlands Cancer Institute, Amsterdam, the Netherlands; Roberto Maroldi, University of Brescia, Italy; and Peter Mildenerger, University Medical Center Mainz, Germany, each celebrated not only for their scientific achievements, but for their lasting contributions to collaboration, education, and patient-centred care. Their reflections highlighted a unifying message: that radiology’s strength lies in its ability to connect disciplines, bridge knowledge gaps, and continuously advance in the service of patients.

With a membership now exceeding 149,000, the ESR stands as one of the largest and most influential organisations in medical imaging, reinforcing ECR’s role as a central hub for education, innovation, and global exchange. As the opening ceremony drew to a close, Becker returned to the stage with a clear call to action: to focus not only on efficiency or volume, but on the quality, purpose, and impact of radiological practice. “A correct diagnosis is the first step towards every right treatment,” she reminded the audience, emphasising the enduring responsibility at the heart of the profession.

EMJ had the pleasure of attending ECR 2026 and is proud to present key highlights from the diverse abstract sessions in our comprehensive review of ECR 2026 for this issue of *EMJ Radiology*, alongside an exclusive interview with ECR President Minerva Becker. Continue reading for an in-depth look at these pivotal discussions and groundbreaking research from this year’s Congress.



Our purpose is to diagnose disease, sometimes to treat it, and always to engage with patients and clinical partners



Oligometastatic Disease Rarely Reported in Routine Imaging

RESEARCH presented at ECR 2026 suggests that oligometastatic disease (OMD) remains markedly underreported in routine radiology practice, despite its growing clinical relevance and reliance on imaging for diagnosis.¹

OMD describes a transitional state of cancer characterised by a limited number of metastatic lesions, where localised treatments such as ablative therapy may offer curative potential. As imaging plays a central role in identifying this state, researchers conducted a large-scale real-world analysis to assess how frequently OMD is referenced in radiology reports across the USA.

Using a real-world imaging data platform, the study evaluated over 33.7 million radiology reports spanning 11 imaging modalities, including CT, MRI, PET/CT, and X-ray, from healthcare providers across 40 states. Despite the extensive dataset, OMD was mentioned in just 164 reports from 109 patients, highlighting its limited integration into routine reporting.

Notably, the majority of OMD references originated from clinicians rather than radiologists. Clinicians included OMD in the clinical indication or patient history in 148 reports, whereas radiologists themselves documented the term in only 18 reports.

OMD was identified across 20 primary tumour types, most commonly breast, lung, and prostate cancers.

CT was the most frequent modality associated with OMD mentions, followed by X-ray angiography, PET/CT, and MRI. Although the first recorded mention of OMD appeared in 2017, usage has increased over time, reaching 33 reports in 2024, suggesting gradual but still limited adoption.

The findings point to a disconnect between the conceptual importance of OMD and its practical application in radiology reporting. Given that imaging is fundamental to diagnosing and guiding treatment decisions in this setting, the authors highlight a need for clearer definitions and standardised reporting guidelines.

However, the retrospective design and restriction to USA-based data limit the generalisability of the results. Further work, particularly in international settings, will be important to determine whether similar patterns exist globally.



Despite the extensive dataset, OMD was mentioned in just **164 reports** from **109 patients**, highlighting its limited integration into routine reporting

Spectral CT Boosts Accuracy in Bowel Ischaemia Detection, Study Finds

ACCURATE and timely diagnosis of bowel ischaemia remains a critical challenge in emergency imaging, where delays can lead to significant morbidity and mortality. Spectral CT has emerged as a promising technique, offering material-specific reconstructions that may enhance visualisation beyond conventional blended images. A retrospective single-centre study presented at ECR 2026 evaluated whether spectral reconstructions improve diagnostic performance for bowel ischaemia and whether outcomes differ between dual energy CT and photon counting CT platforms.²

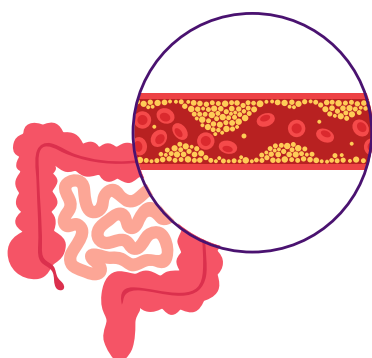
The study reviewed 378 consecutive emergency spectral CT examinations performed between January 2023–July 2025 for suspected bowel ischaemia, including 265 dual energy CT and 113 photon counting CT scans. Exclusion criteria comprised absent spectral data, non-diagnostic image quality, incomplete bowel coverage, lack of a reference standard within 72 hours, or patient age under 18 years. Two abdominal radiologists with 4 years of subspecialty experience independently assessed each case. Examinations were first reviewed using blended images, followed by spectral reconstructions after a 4-week washout period to minimise recall bias. Readers assigned suspicion scores on a five-point scale, and duplicate cases were included to evaluate intra-reader repeatability. Statistical analysis employed generalised linear mixed models with random intercepts for both reader and case, alongside DeLong testing for comparison of diagnostic performance.

Bowel ischaemia was confirmed in 126 of 378 examinations (33%). Sensitivity improved significantly from 75% with blended images to 87% with spectral reconstructions ($p=0.008$), while specificity increased from 72% to 86% ($p<0.001$).

Per-reader area under the curve rose from 0.81 and 0.82 to 0.91 and 0.92, respectively (both $p<0.001$). Diagnostic confidence improved from scores of 3 to 5 on a seven-point scale. Inter-reader agreement increased from a κ value of 0.56 to 0.71, and intra-reader repeatability was high at 0.82. Stratified analysis demonstrated significantly greater performance gains with photon-counting CT compared with dual-energy CT (interaction $p=0.03$).

These findings indicate that spectral CT reconstructions substantially enhance diagnostic accuracy, confidence, and agreement in detecting bowel ischaemia, with the greatest benefit observed using photon-counting CT. For clinical practice, integrating spectral reconstructions into emergency CT workflows may improve diagnostic reliability without increasing contrast dose or radiation exposure. However, the single-centre design and limited number of readers may restrict generalisability, and further multicentre studies are warranted to confirm these results and support broader implementation.

“Spectral CT has emerged as a promising technique, offering material-specific reconstructions that may enhance visualisation”



Sensitivity improved significantly from 75% with blended images to 87% with spectral reconstructions ($p=0.008$), while specificity increased from 72% to 86% ($p<0.001$)

One in Four LI-RADS 3 Liver Lesions Progress Within 1 Year

A NEW multicentre, multinational study presented at ECR 2026 provides important insights into the natural history of indeterminate liver lesions in patients who are cirrhotic. The research examined the 1-year outcomes of LI-RADS 3 observations, lesions of intermediate probability for hepatocellular carcinoma (HCC), on contrast-enhanced MRI across six centres in three countries.³

The retrospective study included 347 patients with 540 LI-RADS 3 lesions, each followed for 12 months. Using LI-RADS v2018 criteria, researchers applied generalised linear mixed-effects models and machine learning approaches, including least absolute shrinkage and selection operator (LASSO) and random forest, to identify predictors of lesion progression.

The findings indicate that approximately one in four indeterminate liver lesions in patients who are cirrhotic progress within 1 year

Results showed that 27% of LI-RADS 3 observations progressed within 1 year, with 13% advancing to LI-RADS 4 (probably HCC) and 14% reaching LI-RADS 5 (definitely HCC). Independent predictors of progression included lesion size (odds ratio [OR]: 1.12 per mm), severe liver dysfunction (Child-Pugh Class C; OR: 8.36), and underlying aetiology, with alcohol-related liver disease showing a protective association (OR: 0.24). Imaging features such as an enhancing capsule improved risk prediction, increasing the area under the curve from 0.65 to 0.72 ($p=0.01$). A lesion size threshold of 9.5 mm was associated with higher progression risk.

The findings indicate that approximately one in four indeterminate liver lesions in patients who are cirrhotic progress within 1 year. Integrating clinical parameters, liver function, and imaging features enhances risk stratification and supports more personalised surveillance strategies.

The study has some limitations, including potential selection bias, variability in imaging protocols across centres, and reliance on MRI rather than histopathology for lesion classification. Ancillary features were applied in LI-RADS categorisation but were not analysed independently to reduce inter-reader variability. The research received no external funding and was approved by institutional review boards, with informed consent waived due to its retrospective design.

This multicentre study provides valuable evidence for radiologists and hepatologists, highlighting key predictors of progression in indeterminate liver lesions and informing follow-up strategies for early HCC detection.



Iodine Maps Show High Accuracy for Pericarditis Diagnosis

A NEW study presented at ECR 2026 has demonstrated that iodine maps derived from dual-layer spectral CT can accurately identify pericarditis, offering a promising non-invasive diagnostic tool for clinical practice.⁴

In this retrospective, single-centre study, researchers evaluated 105 patients who underwent CCTA between February 2023–December 2024 using a dual-layer spectral CT scanner. The cohort included patients with and without pericardial effusion. Investigators measured iodine concentration within the pericardial layers using iodine maps and assessed pericardial thickness on both spectral and conventional reconstructions. Diagnostic performance was evaluated against the European Society of Cardiology (ESC) clinical criteria. The research received no external funding and was approved by an ethics committee.

Findings showed that iodine concentration was significantly higher in patients with pericarditis compared with those without (1.79 mg/mL [interquartile range: 1.11–2.24] versus 0.55 mg/mL [interquartile range: 0.42–0.66]; $p < 0.0001$). Pericardial thickness was also markedly increased in affected patients across both spectral and conventional reconstructions. On iodine maps, a threshold of >0.82 mg/mL achieved an area under the curve of 0.99 (95% CI: 0.94–0.99), with 93.9% sensitivity (95% CI:

79.8–99.3) and 95.8% specificity (95% CI: 88.3–99.1). Using a pericardial thickness threshold of >1.6 mm, iodine maps reached an area under the curve of 1.00 (95% CI: 0.97–1.00), achieving 100% sensitivity (95% CI: 89.4–100) and 100% specificity (95% CI: 95.0–100). Comparable performance was observed with conventional reconstructions at a slightly higher thickness threshold of >1.8 mm.

These results demonstrate the potential value and impressive accuracy of spectral iodine maps in diagnosing pericarditis using both iodine concentration and pericardial thickness measurements.

The authors noted limitations, including the retrospective design, modest sample size, and single-centre setting, as well as the exclusive use of dual-layer spectral CT technology.

Overall, the findings suggest that iodine maps could enhance the non-invasive diagnosis of pericarditis, with potential to refine clinical workflows and support earlier, more accurate treatment decisions.

AI-Based CT Body Composition Metrics Linked to Age and Smoking

RECENT data presented at ECR 2026 indicate that age and smoking status are independently associated with variations in body composition in men.⁵ These measures were taken from low-dose chest CT scans in participants in a lung cancer screening.⁵

The authors analysed baseline low-dose CT scans from 4,435 male participants enrolled in the NELSON trial (a study aimed at determining the effectiveness of low-dose CT lung cancer screening). AI-based automated tools were used to quantify skeletal muscle area (SMA) and subcutaneous adipose tissue (SAT) at the thoracic vertebral levels 5, 8, and 10. Measurements across these three levels were combined to generate composite SMA and SAT values, and a fat-to-muscle ratio was calculated for an integrated assessment of body composition. Age was stratified in 5-year intervals, and analyses were adjusted for smoking status and cumulative exposure (pack-years).

Current smokers demonstrated significantly lower levels of both muscle and fat compared with former smokers ($p < 0.001$). Increasing age was associated with a progressive decline in SMA (from 515 cm² in those aged 50–54 years to 472 cm² in those aged ≥ 70 years; $p < 0.001$) alongside increases in SAT (376 to 443 cm²; $p < 0.001$) and fat-to-muscle (0.70 to 0.90; $p < 0.001$). These trends remained significant after adjusting for smoking status and pack-years, suggesting that both age and smoking independently influence body composition.

The study demonstrates that body composition measures derived from routine low-dose CT imaging could provide additional clinically relevant information. CT-derived metrics may enhance risk stratification in screening programmes, reflecting their potential practical value.

The findings are observational, and further research is needed to confirm how these imaging markers relate to clinical outcomes in lung cancer screening populations. The

information available does not provide data on potential confounding factors such as weight, height, or overall health status.

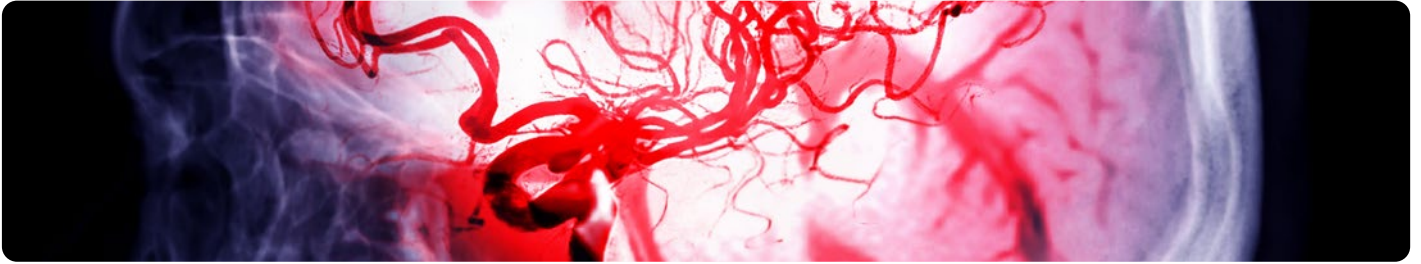


These trends remained significant after adjusting for smoking status and pack-years, suggesting that both age and smoking independently influence body composition



Smaller WEB Devices Show Improved Outcomes in Intracranial Aneurysm Treatment

A NEW multicentre study from the WorldWideWEB Consortium (W3C) presented at ECR 2026 suggests that smaller Woven EndoBridge (WEB; MicroVention, Aliso Viejo, California, USA) devices may offer improved anatomic outcomes and lower retreatment rates in the treatment of intracranial aneurysms, without compromising safety or functional outcomes.⁶



The retrospective analysis included 1,473 adult patients treated with WEB devices across 30 international centres. Patients were stratified by device size into small (≤ 4.5 mm) and large (> 4.5 mm) groups, with an additional sub-analysis comparing small and very large (> 7.5 mm) devices. The primary outcome was retreatment rate, while secondary outcomes included functional status measured by the modified Rankin Scale (mRS), anatomic occlusion rates, and safety events such as intracranial haemorrhage and thromboembolic complications.

Safety outcomes did not differ significantly between small and large devices. Rates of intracranial haemorrhage were 2.6% in the small device group and 0.9% in the large device group ($p=0.102$), while thromboembolic complications occurred in 3.1% and 3.9% of patients, respectively ($p=0.686$). In the sub-analysis, very large devices were associated with higher retreatment rates (16.1%; $p<0.001$) and lower complete occlusion rates both periprocedurally (32.2%; $p<0.001$) and at follow-up (50.5%; $p<0.001$), with similar safety profiles.

Of the total cohort, **229 patients (15.5%)** were treated with small WEB devices

Of the total cohort, 229 patients (15.5%) were treated with small WEB devices. Retreatment rates were significantly lower in this group compared with those receiving larger devices (4.3% versus 8.8%; $p=0.037$). Small devices were also associated with higher complete occlusion rates both periprocedurally (57.1% versus 36.6%; $p<0.001$) and at last follow-up (76.2% versus 58.5%; $p<0.001$). Functional outcomes were comparable between groups, with a median mRS of 1 (1–2) in both cohorts ($p=0.88$).

These findings indicate that smaller WEB devices may provide superior anatomic results while maintaining comparable safety and functional outcomes. The results are particularly notable given the technical challenges associated with deploying smaller devices.

The study is limited by its retrospective design and the absence of core laboratory adjudication for anatomic outcomes, which may introduce variability in assessment.

Overall, this large multicentre analysis supports the use of smaller WEB devices as an effective option in intracranial aneurysm treatment, highlighting their potential to reduce retreatment rates without increasing risk.

Deep Learning MRI Reconstruction Cuts Scan Time Dramatically

A NEW real-world study presented at ECR 2026 showed that integrating a deep learning reconstruction (DLR) algorithm into musculoskeletal MRI workflows substantially reduced scan times while maintaining image quality and delivering measurable environmental benefits.⁷

Researchers evaluated the implementation of a DLR technique across a large private radiology network in Brazil, analysing its impact on workflow efficiency, diagnostic image quality, and sustainability in routine outpatient practice. The research received no external funding and was approved by an ethics committee.

The retrospective analysis included 22,165 MRI examinations, comparing 12 months before DLR implementation with 12 months after DLR implementation. Following vendor-guided upgrades and protocol optimisation, acquisition times were automatically recorded, and a subset of scans underwent blinded qualitative review using a 5-point Likert scale.

Findings demonstrated a 53% reduction in median scan duration after DLR implementation. The most pronounced improvements were observed in shoulder (62%), wrist (59%), knee (52%), spine (38%), and hip (33%) imaging. These reductions translated into improved patient throughput, decreased scanner idle time, and fewer interruptions related to patient anxiety or motion. Importantly, although some reviewers noted subtle differences in image texture, radiologist assessments indicated that overall image quality remained stable despite the accelerated acquisition.

Beyond operational gains, the study identified notable sustainability advantages. Reduced scan times led to annual energy savings exceeding 2.3 MWh per scanner, corresponding to more than 1 metric ton of avoided carbon dioxide equivalent emissions. These findings suggest that AI-driven reconstruction may contribute to greener imaging practices without sacrificing clinical performance.

The most pronounced improvements were observed in shoulder (62%), wrist (59%), knee (52%), spine (38%), and hip (33%) imaging

The study also emphasised the importance of workflow standardisation and close collaboration between radiologists, technologists, and industry partners as key requirements for successful implementation.

The authors acknowledged limitations, including the retrospective design, limited sampling for image quality assessment, and absence of a formal cost-effectiveness analysis. Nevertheless, the results provide compelling real-world evidence that DLR can enhance efficiency, patient experience, and environmental sustainability in musculoskeletal MRI, supporting its broader adoption in clinical practice.



Combined Imaging Boosts Stroke Prediction in Atherosclerosis

A NEW imaging study presented at ECR 2026 suggests that combining markers of intracranial atherosclerotic plaques with indicators of cerebral small vessel disease (CSVD) could significantly improve the prediction of ischaemic stroke risk.⁸

Intracranial atherosclerotic disease is a major cause of stroke worldwide, yet accurately identifying patients at the highest risk remains a clinical challenge. While both large artery plaque characteristics and small vessel disease markers have individually been linked to stroke, their combined predictive value has not been well established.

To address this, the researchers analysed 237 patients who underwent contrast-enhanced high-resolution vessel wall MRI (HRVW-MRI) between January 2021–April 2024. The median age was 63 years, and approximately two-thirds of participants were male. Among the cohort, 163 patients experienced an ischaemic stroke.

“Intracranial atherosclerotic disease is a major cause of stroke worldwide, yet accurately identifying patients at the highest risk remains a clinical challenge”

The team evaluated multiple plaque-related imaging features, including intraplaque haemorrhage, enhancement grade, maximum wall thickness, and lumen area. In parallel, they assessed CSVD burden using a composite score (ranging from 0–4) based on four established markers: lacunes, white matter hyperintensities, cerebral microbleeds, and enlarged perivascular spaces.

Statistical analysis showed that several imaging characteristics were independently associated with stroke occurrence. Patients with greater wall thickness, larger lumen area, higher plaque enhancement, and increased numbers of cerebral microbleeds and enlarged perivascular spaces were more likely to have experienced a stroke. Higher overall CSVD burden and more severe white matter hyperintensities were also significant predictors.

Importantly, combining plaque features with CSVD markers resulted in substantially improved predictive performance. The integrated model achieved an area under the receiver operating characteristic curve (AUC) of 0.85, outperforming models based on plaque features alone (AUC: 0.77) or CSVD markers alone (AUC: 0.79).

These findings highlight the additive value of assessing both large and small vessel disease in patients with intracranial atherosclerosis. The authors suggest that a more comprehensive imaging approach could enable better risk stratification and inform clinical decision-making, potentially helping to identify high-risk individuals who may benefit from closer monitoring or more aggressive preventive strategies.

Overall, the study provides further evidence that stroke risk is driven by the complex interplay between different vascular pathologies, reinforcing the need for integrated diagnostic frameworks in cerebrovascular disease.



Glucose Dysregulation Linked to Progression of White Matter Brain Damage

WHITE matter hyperintensities (WMH) are a key imaging marker of cerebral small vessel disease and are associated with stroke, cognitive decline, and functional impairment. Identifying individuals at risk of WMH progression, alongside modifiable biological drivers, remains a clinical priority. A study presented at ECR 2026 aimed to develop a predictive model for WMH progression and to explore whether abnormalities in glucose metabolism contribute causally through microstructural brain damage.⁹

Using imaging and genetic data from a large population cohort, the analysis focused on both prediction and mechanistic pathways, with the notable finding that glucometabolic dysfunction plays a measurable role in WMH progression.

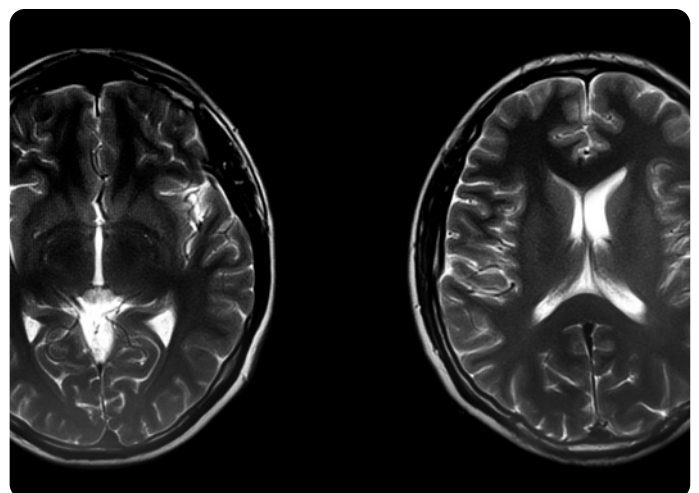
Among **1,616 participants**, **902** demonstrated WMH progression while **714** remained stable

Data were analysed from UK Biobank participants of European ancestry who had serial brain MRI scans and evidence of cerebral small vessel disease. Eight key predictive features were selected using the Akaike information criterion, including age, BMI, cystatin C, glucose, and diffusion MRI-derived metrics such as fractional anisotropy and mean diffusivity. Multiple machine learning models were developed to predict WMH progression. In parallel, structural equation modelling assessed mediation pathways, while bidirectional two-sample Mendelian randomisation used genome-wide association study data to investigate causal relationships between glucose indices, including HbA1c and fasting glucose, and white matter microstructure.

Among 1,616 participants, 902 demonstrated WMH progression while 714 remained stable. Seven machine learning algorithms were tested, with logistic regression and support vector machine models showing the best predictive performance. Structural equation modelling demonstrated that glucose levels partially mediated WMH progression through

isotropic volume fraction, indicating microstructural damage as an intermediate pathway. Mendelian randomisation analyses further showed that genetic predisposition to higher HbA1c was significantly associated with increased free water content in several brain regions, including the left cerebral peduncle, right hippocampal gyrus, left anterior thalamic radiation, and left corticospinal tract.

These findings suggest that glucometabolic dysregulation contributes to WMH progression via microstructural injury, highlighting a potential target for clinical intervention. In practice, tighter glycaemic control may have relevance not only for metabolic health but also for preventing cerebrovascular damage and its neurological consequences. However, the study is limited by its predominantly European cohort, which may restrict generalisability to more diverse populations, and further validation in broader clinical settings is required.



Novel CT Power Save Mode Cuts Idle Energy Without Workflow Disruption

A NOVEL CT power save mode reduced idle energy consumption without disrupting clinical workflows.¹⁰ CT scanners, essential for diagnostic imaging, often remain powered on during the intervals between patient examinations. These idle periods constitute a large portion of total on-time, contributing to energy use, associated costs and carbon emissions.

In a 28-week prospective study presented at ECR 2026, a single CT scanner was equipped with the novel power save mode. Power draw was continuously monitored and categorised as active, idle, and power save states. Usability and workflow impact were assessed via a survey of 19 CT technologists.

Across 124 workdays, the power save mode reduced power draw by 26.8% compared with the idle state (1.6±0.1 kW versus 2.1±0.1 kW), resulting in a 15.6% reduction in non-productive energy use and a 7.2% reduction in total operational energy use. Non-productive time accounted for 66.1% of scanner on-hours, with the power save mode active 58.1% of this time. Survey responses from 19 technologists indicated

high awareness of the power save mode (84%), with 79% having manually activated it at least once. All technologists reported the activation process as very easy, and 100% reported no technical issues or workflow disruptions.

These results demonstrate that the power save mode reduces non-productive energy use while maintaining workflow efficiency. Limitations include testing on a single CT scanner model, with relative and absolute savings likely varying by vendor, model, and clinical setting. Similar power save modes may reduce energy use and operational costs in other radiology departments, and future studies could evaluate whether these benefits extend across different scanners and environments.

References

1. Willemink MJ et al. The use of oligometastatic disease in routine radiology practice: a real world data analysis. Abstract. ECR 2026, 4-8 March, 2026.
2. Mankertz FKE et al. Improved detection of bowel ischemia in emergency CT: diagnostic value of spectral reconstructions across DECT and PCCT platforms. Abstract. ECR 2026, 4-8 March, 2026.
3. Asmundo L et al. A multicenter multinational retrospective study of the 1-year natural history of LI-RADS 3 observations in patients with cirrhosis. Abstract. ECR 2026, 4-8 March, 2026.
4. Lanzafame LRM et al. Evaluation of the diagnostic performance of iodine maps derived from a dual-layer CT for the diagnosis of pericarditis. Abstract. ECR 2026, 4-8 March, 2026.
5. Xin Y et al. Thoracic body composition across age and smoking status in a lung cancer screening cohort: insights from the NELSON study. Abstract. ECR 2026, 4-8 March, 2026.
6. Dugar F et al. Small versus large Woven EndoBridge devices for intracranial aneurysms: results from the WorldWideWEB multicenter study. Abstract. ECR 2026, 4-8 March, 2026.
7. Mendonca J et al. Real-world implementation of a deep learning-based reconstruction algorithm in musculoskeletal MRI: impact on workflow, image quality, and sustainability. Abstract. ECR 2026, 4-8 March, 2026.
8. Zhang J et al. Combining plaques and cerebral small vessel diseases imaging characteristics for ischemic stroke prediction in intracranial atherosclerotic disease. Abstract. ECR 2026, 4-8 March, 2026.
9. Han X et al. Glucometabolic dysregulation drives white matter hyperintensity progression in cerebral small vessel disease: longitudinal evidence from the UK biobank and mendelian randomization analysis. Abstract. ECR 2026, 4-8 March, 2026.
10. Hehenkamp P et al. Reducing idle CT scanner energy consumption between examinations: operational feasibility and impact of a rapid-reactivation power save mode. Abstract. ECR 2026, 4-8 March, 2026.