

WEEKLY AI INTELLIGENCE REPORT

Radiology and Medical Imaging

Week 26 | 21 to 27 June 2026

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Compiled from publicly available sources (indexed peer-reviewed literature, official press releases, regulatory databases). Does not constitute medical, regulatory, or financial advice.

7

Peer-reviewed papers

4

Industry / FDA items

5

Media highlights

2

Key opinion leaders

SECTION 0

EXECUTIVE SUMMARY

*Key trends, week of 21 to 27 June 2026***[REPORTING] AI DRAFT REPORTING REACHES DEPLOYMENT**

Two parallel breakthroughs: Aidoc First Read receives FDA Breakthrough Device Designation (June 25, Q260882) for AI-generated chest X-ray preliminary reports covering 4 life-threatening findings; HOPPR Presto launches commercially (June 24) in PowerScribe 360/One. The AI-authored radiology report transitions from research to regulated clinical pipeline.

[FDA] TWO 510(K) CLEARANCES IN THREE DAYS

GuideAI Health VascularAssist (June 22) cleared for CT-based peripheral arterial disease triage (95% sensitivity). Cercare Medical Oncology Virtual Expert K260316 (June 25) cleared for brain tumor MRI segmentation (Dice 0.82, on-premise). Accelerating 510(k) cadence continues across specialties.

[RESEARCH] LONGITUDINAL AI BREAST CANCER RISK AS DYNAMIC BIOMARKER

Radiology (Harvard, June 23, PMID 42334348): first evidence that image-only AI risk scores rise progressively in years before diagnosis — slope +1.13/year in cancer patients vs +0.09/year in controls across 54,014 women. Validates AI mammography risk as a temporal biomarker enabling risk-adaptive screening intervals.

[MULTIMODAL] VOICE-LLM-CONTROLLED ULTRASOUND WORKFLOW

npj Digital Medicine (June 21, PMID 42324351): first voice-LLM framework for super-resolution ultrasound combining DeepSeek-R1 and MiniCPM-V. Structured reports in approximately 4 minutes; validated by 14 clinicians. Opens a new modality frontier for AI-guided imaging parameter optimization.

[WATCHPOINT] RCR GLOBAL AI CONFERENCE OPENS JUNE 29 — LONDON

The Royal College of Radiologists hosts its 2nd Annual Global AI Conference (June 29-30, London), theme: Safe and Practical AI Implementation. Keynote: Prof. Curtis Langlotz (Stanford / RSNA President) presenting task-based analysis of AI's effect on the radiologist workforce. First major post-SIIM gathering for European radiology AI operationalization.

SECTION 1

PEER-REVIEWED PAPERS

Source: PubMed | Verified indexing | No preprints | 21-27 June 2026

Longitudinal Analysis of Changes in Deep Learning Image-based Breast Cancer Risk Scores over Time

Lehman CD, Mercado SF, Azam S et al. (Harvard Medical School / Massachusetts General Hospital) | *Radiology* | 23 June 2026

Retrospective multicenter cohort (54,014 women, 158,807 mammograms, 2009-2019) tracking AI-derived 5-year breast cancer risk trajectories using the image-only Mirai model. Among cancer-developing women, risk scores rose from 2.1 (6 years pre-diagnosis) to 6.6 at the index exam; cancer-free women maintained stable scores of 1.8-2.2. Risk increase slope: +1.13/year in cancer group vs +0.09/year in controls (difference $\Delta=1.04$, 95% CI 0.99-1.09).

Key metrics: 54,014 women, 817 cancer patients, 53,197 controls. Slope difference $\Delta=1.04$ (95% CI 0.99-1.09). Risk scores 2.1 to 6.6 over 6 years pre-diagnosis vs stable 1.8-2.2 in controls.

Clinical relevance: First longitudinal validation of AI mammography risk as a dynamic biomarker. Supports risk-adaptive screening interval personalization: upward trajectory triggers early recall; stable low scores may safely extend intervals.

PMID 42334348 DOI 10.1148/radiol.253023

Voice-controlled super-resolution ultrasound imaging and reporting powered by multimodal large language models

Guo N, Deng Z, Tan Q et al. | *npj Digital Medicine* | 21 June 2026

Multimodal AI framework integrating super-resolution ultrasound imaging (SRUI) with DeepSeek-R1 (NLP) and MiniCPM-V (image recognition). Clinicians issue voice commands to control imaging parameters and generate structured reports via the Microbubble Similarity Score for adaptive microbubble filtration. Structured reports generated in approximately 4 minutes; evaluated by 14 clinicians with high structural integrity and standardized terminology.

Key metrics: 14 clinician evaluators. Report generation approximately 4 minutes. Adaptive microbubble filtration via Microbubble Similarity Score. SRUI surpasses diffraction limit for microvascular architecture visualization.

Clinical relevance: First voice-LLM-controlled SRUI workflow. Addresses key adoption barriers (complex parameter optimization, time-consuming interpretation) through AI-assisted automation. Applicable to oncology, neurology, and cardiology SRUI pipelines.

PMID 42324351 DOI 10.1038/s41746-026-02924-8

Clinical pathways matter for multimodal deep learning in early Alzheimer's disease detection

Lu Y, Hammonds SK, Fernandez-Quilez A | *Scientific Reports* | 21 June 2026

Zero-shot multimodal framework using SigLIP combining structural MRI embeddings with text embeddings of routine clinical variables (MMSE, age, sex) for early Alzheimer's disease risk stratification in 416 ADNI participants. Single-visit AUC 0.91 vs CSF Abeta42-based model (0.73) and MMSE alone (0.85). No task-specific training required.

Key metrics: 416 ADNI participants. AUC 0.91 (MRI+MMSE+age+sex, 1-visit). Vs CSF Abeta42: 0.73. Vs MMSE alone: 0.85.

Longitudinal 2-visit: performance maintained or improved.

Clinical relevance: Demonstrates that routine clinical MRI combined with simple variables can rival invasive CSF biomarkers for early AD prediction without domain-specific training. Directly applicable to memory clinics lacking CSF testing infrastructure.

PMID 42324333 DOI 10.1038/s41598-026-57861-z

Interpretable deep learning for rotator cuff calcific tendinopathy diagnosis: a multi-center study

Bautista JM, Peris JL, Carrillo FY et al. | [Scientific Reports](#) | 22 June 2026

CNN (VGG19) and hybrid DL-ML models for binary classification of shoulder radiographs (4,268 XRs, multi-center). Internal validation: CNN AUC 0.956, hybrid CNN-SVM AUC 0.961. External validation: CNN AUC 0.940, hybrid AUC 0.942. Interpretability via Grad-CAM and SHAP. No statistically significant difference between end-to-end DL and hybrid approaches (DeLong test).

Key metrics: 4,268 training XRs. Internal validation n=480: AUC 0.956 (CNN), 0.961 (hybrid). External validation n=308: AUC 0.940 (CNN), 0.942 (hybrid). Multi-center design.

Clinical relevance: Robust multi-center validation with built-in interpretability. Parity of end-to-end DL vs hybrid approaches simplifies deployment decisions for radiology AI procurement.

PMID 42331876 DOI 10.1038/s41598-026-51016-w

Effects of breast cancer risk factors on the tumor microenvironment: a morphological deep-learning analysis of three prospective cohorts

Bodelon C, Amgad M, Hodge JM et al. | [npj Breast Cancer](#) | 22 June 2026

Deep learning quantification of 110 histological features (epithelium, stroma, immune infiltration) from 3,724 H&E whole-slide images across 3 prospective cohorts. Higher BMI linked to poor-prognosis tumor microenvironment (TME) features mediating 18.1% of the BMI-breast cancer mortality association. HRT linked to less aggressive TME features.

Key metrics: 3,724 H&E slides, 3 prospective cohorts, 110 histological features. BMI-BC mortality mediation fraction: 18.1%.

Clinical relevance: Computational pathology revealing how modifiable risk factors shape the TME. Identifies imaging-accessible biomarkers for prevention strategies and treatment individualization.

PMID 42331813 DOI 10.1038/s41523-026-00994-1

Early prediction of severe Omicron pneumonia using a multimodal AI model integrating delta CT radiomics and laboratory indicators

Ye X, Dai X, Gong S et al. | [Scientific Reports](#) | 21 June 2026

Multimodal predictive model combining Delta Radiomics (temporal features from serial chest CT) with clinical biomarkers for early prediction of severe or critical Omicron pneumonia. Models include logistic regression, random forest, and MLP. Combined model AUC 0.885 (internal validation) and 0.875 (external test).

Key metrics: AUC 0.885 (internal validation), 0.875 (external test). Training n=91, internal validation n=23, external test n=32. Delta radiomics from serial CT.

Clinical relevance: Demonstrates value of temporal CT-derived radiomics combined with laboratory data for ICU triage. Methodology transferable to other respiratory conditions requiring serial imaging.

PMID 42324292 DOI 10.1038/s41598-026-58689-3

Deep learning and red deer optimiser for automatic cardiovascular disease identification on magnetic resonance images

Singh A, Agarwal H, Singh AP et al. | [Scientific Reports](#) | 27 June 2026

Automated Cardiovascular Disease Detection (ACVD-RDODL) framework combining an Attention-Based Convolutional Gated Recurrent Unit (CGRU) with the Red Deer Optimizer (RDO) for DL hyperparameter optimization. Image enhancement via Wiener Filtering and Dynamic Histogram Equalization, followed by radiomics feature extraction on benchmark cardiac MRI datasets. RDO-optimized DL outperforms standard optimization in accuracy and computational efficiency.

Key metrics: Benchmark cardiac MRI dataset. Superior classification accuracy and computational efficiency vs unoptimized DL and prior methods.

Clinical relevance: Demonstrates metaheuristic-guided hyperparameter optimization for cardiac MRI classification. Relevant for AI development teams building cardiac imaging tools seeking automated optimization pipelines without manual tuning.

PMID 42365028 DOI 10.1038/s41598-026-55595-6

SECTION 2

INDUSTRY & REGULATION

Sources: Official registers | Press releases | FDA databases

[FDA] GuideAI Health VascularAssist Occlusion Triage — FDA 510(k) Clearance*GuideAI Health | 22 June 2026*

GuideAI Health received FDA 510(k) clearance for VascularAssist Occlusion Triage, a CT-based AI tool for peripheral arterial disease (PAD) detection and triage. Clinical performance: 95% patient-level sensitivity (2D analysis) and 94% (3D). Targets radiology and vascular surgery triage workflows for lower extremity arterial occlusions.

Source: [GlobeNewswire press release, 22 June 2026](#)

[FDA] Cercare Medical Oncology Virtual Expert — FDA 510(k) Clearance K260316*Cercare Medical | 25 June 2026*

Cercare Medical received FDA 510(k) clearance (K260316) for Oncology Virtual Expert, an AI tool for brain tumor segmentation on MRI. Clinical validation: Dice similarity coefficient 0.82 vs expert neuroradiologist, validated on 100 patients. On-premise deployment with no cloud data transfer, addressing hospital data governance requirements.

Source: [AccessNewswire press release, 25 June 2026](#)

[REGULATION] Aidoc First Read — FDA Breakthrough Device Designation (Q260882)*Aidoc | 25 June 2026*

Aidoc received FDA Breakthrough Device Designation (Q260882) for First Read, an AI system generating preliminary radiology reports from chest X-rays covering 4 life-threatening findings. First Read remains investigational — the designation expedites FDA review but does not constitute clearance. Aidoc is the first company with a formally expedited FDA pathway for AI-drafted radiology reports.

Source: [Aidoc official press release, 25 June 2026](#)

[MARKET] HOPPR Presto Agent — Commercial Launch in PowerScribe 360/One*HOPPR | 24 June 2026*

HOPPR launched Presto Agent commercially, integrating AI-generated draft reporting into existing PowerScribe 360 and PowerScribe One radiology information systems. Presto is vision language model-agnostic — it works with any underlying VLM, allowing institutions to use vendor-preferred models without replacing PACS or RIS infrastructure.

Source: [PR Newswire, 24 June 2026](#)

SECTION 3

MEDIA HIGHLIGHTS*AuntMinnie | Radiology Business | The Imaging Wire | MedTech Dive***GuideAI Health secures FDA clearance for peripheral vascular disease AI software***AuntMinnie.com | 22 June 2026*

Coverage of GuideAI Health VascularAssist 510(k) clearance: CT-based AI triage for peripheral arterial occlusions. Contextualizes within the growing vascular AI market and notes the 95% sensitivity benchmark.

Link: <https://www.auntminnie.com/clinical-news/ct/news/15828244/guideai-health-secures...>

AI-based calculations of breast cancer risk could provide longitudinal data for screening*The Imaging Wire | 24 June 2026*

Analysis of the Radiology paper (Lehman et al., PMID 42334348) on longitudinal AI breast cancer risk scores. Discussion of implications for personalized screening intervals and risk-adaptive mammography programs.

Link: <https://theimagingwire.com/2026/06/24/ai-based-calculations-of-breast-cancer-ris...>

Aidoc wins FDA Breakthrough designation for AI that drafts chest X-ray reports

MedTech Dive | 26 June 2026

In-depth analysis of Aidoc First Read FDA Breakthrough Device Designation. Examines what the designation means for AI-authored radiology reports, the regulatory pathway ahead, and competitive implications for the radiology AI reporting market.

Link: <https://www.medtechdive.com/news/aidoc-wins-breakthrough-nod-for-ai-that-reads-c...>

AI-powered brain tumor segmentation tool earns FDA clearance

Radiology Business | 26 June 2026

Coverage of Cercare Medical Oncology Virtual Expert 510(k) clearance for brain tumor MRI segmentation. Discussion of on-premise deployment as a differentiator in the neuro-oncology AI market.

Link: <https://radiologybusiness.com/topics/healthcare-management/healthcare-policy/ai-...>

Misread CT leads to \$23M malpractice award

AuntMinnie.com | 22 June 2026

A misread CT scan led to a \$23 million malpractice verdict. Reinforces the clinical and legal stakes of radiology interpretation and the potential risk-mitigation role of AI detection tools in high-stakes diagnostic workflows.

Link: <https://www.auntminnie.com/clinical-news/ct/news/15828300/misread-ct-leads-to-23...>

SECTION 4

PROFESSIONAL SOCIETIES

RCR | *SIIM* | *Official publications* | *Week of 21-27 June 2026*

RCR 2nd Annual Global AI Conference — June 29-30, 2026, London

Upcoming — *announced and promoted week of 21-27 June 2026*

The Royal College of Radiologists hosts its 2nd Global AI Conference (June 29-30, London). Theme: Safe and Practical AI Implementation. Keynote: Prof. Curtis Langlotz (Stanford / RSNA President) presenting task-based analysis of AI's effect on the radiologist workforce. Sessions cover implementation science, governance, clinical validation, and workforce planning.

Source: <https://rcraiconference.com/2026>

SIIM: CVMs on par with LLMs for labeling incidental breast findings on chest CT

SIIM coverage, active week of 21-27 June 2026

AuntMinnie coverage of SIIM data: computer vision models (CVMs) perform comparably to large language models for labeling incidental breast findings on chest CT. Suggests specialized CVMs may offer a cost-effective, computationally lighter alternative to full LLM deployment for structured finding labeling tasks.

Source: <https://www.auntminnie.com/clinical-news/womens-imaging/article/15828156/siim-cvms-on-par-with-llms-for-labeling-incidenta...>

SECTION 5

KEY OPINION LEADERS

LinkedIn | *Public statements* | *Week of 21-27 June 2026*

Curtis Langlotz, MD PhD

Professor of Radiology, Stanford University | *President, RSNA* | *Keynote Speaker, RCR Global AI Conference 2026*

Confirmed as keynote speaker at the RCR 2nd Annual Global AI Conference (June 29-30, London). His presentation focuses on a task-based analysis of AI's effect on the radiologist workforce — moving beyond speculative displacement arguments toward quantitative, modality-specific impact assessment. Active pre-conference LinkedIn engagement promoting the event during the week of June 21-27.

Source: [LinkedIn](#) / [RCR Conference website](#), week of 21-27 June 2026

Elad Walach

CEO and Co-founder, Aidoc

Official statement on Aidoc First Read FDA Breakthrough Device Designation (June 25): "This designation recognizes that First Read has the potential to provide more effective treatment of a life-threatening condition. We are committed to working with the FDA to bring this technology to patients as quickly as possible." Aidoc is the first company with an FDA-expedited pathway for AI-drafted radiology reports.

Source: [Aidoc official press release, 25 June 2026](#)

QUALITY ASSURANCE NOTE

Compiled by Dr. Sergey Morozov from publicly available sources. All 7 PMIDs confirmed via NCBI E-utilities API (count=1 for each DOI query), all within the 21-27 June 2026 publication window. FDA 510(k) clearances for GuideAI Health and Cercare Medical confirmed from official GlobeNewswire/AccessNewswire press releases. Aidoc Breakthrough Device Designation confirmed from Aidoc official press release and FDA database (Q260882). HOPPR Presto launch confirmed via PR Newswire (June 24). Curt Langlotz keynote at RCR Global AI Conference confirmed from rraiconference.com/2026; LinkedIn post URL noted but exact posting date within June 21-27 window not independently verified — included with this caveat. Elad Walach statement sourced from Aidoc official press release, June 25. No verified LinkedIn posts from Amine Korchi, Woojin Kim, or Pranav Rajpurkar confirmed for June 21-27 window.