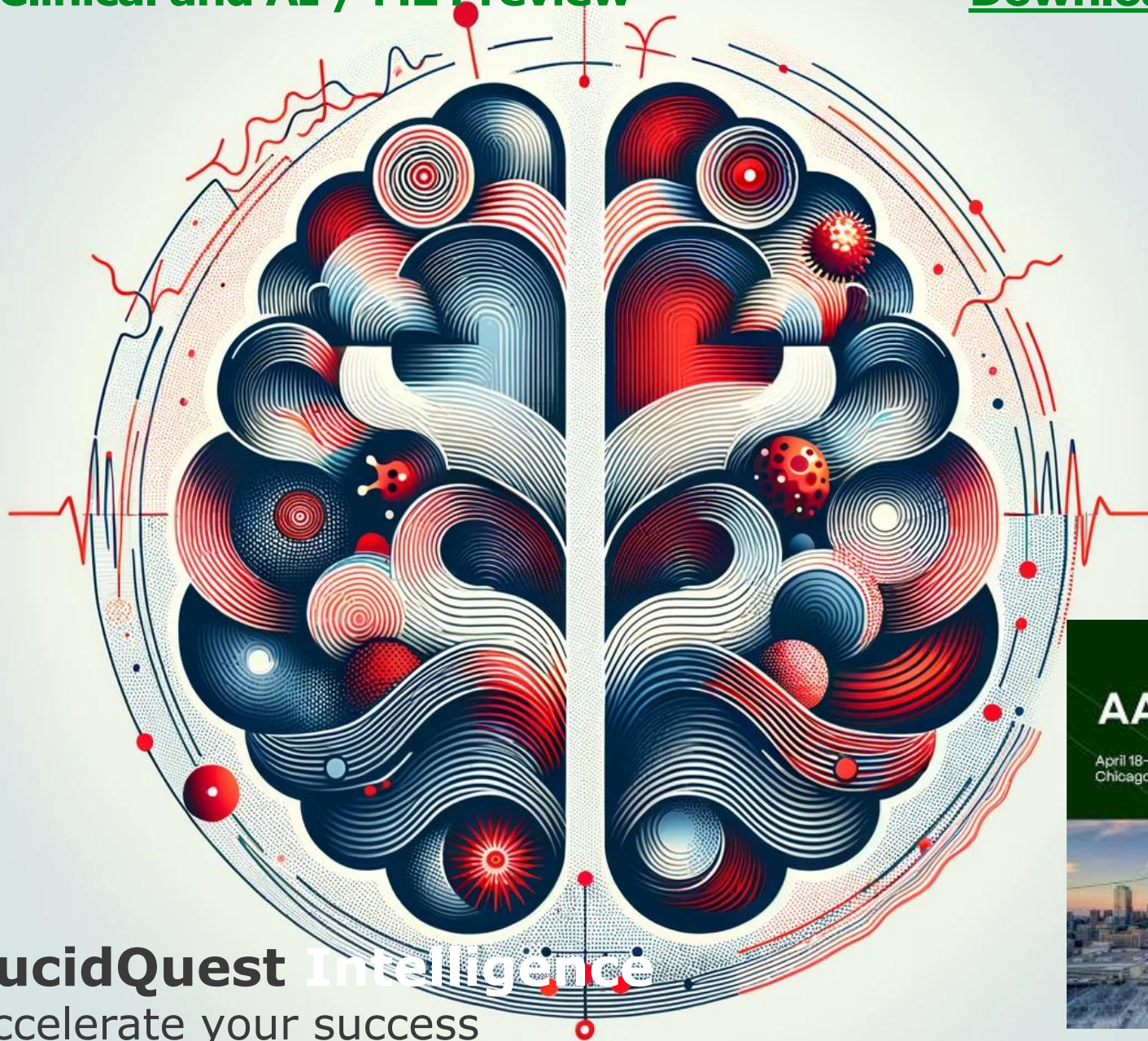




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AAN 2026 – General Overview



- **Disease Breadth:** AAN 2026 is expected to cover major neurology areas, led by migraine, Alzheimer's disease, Parkinson's disease, epilepsy, stroke, multiple sclerosis, and myasthenia gravis



- **Late-stage Pipeline:** The meeting is likely to feature strong phase 3 and extension data across neurodegeneration, neuroimmunology, headache, and epilepsy



- **Real-world Evidence:** Registry, cohort, and observational studies are set to strengthen understanding of treatment effectiveness, safety, persistence, and clinical use



- **Biomarker Integration:** Imaging, fluid, retinal, electrophysiologic, and digital biomarkers are expected further to shape diagnosis, monitoring, and progression assessment



- **Digital Neurology:** AI tools, remote monitoring, digital endpoints, and decentralized research models are likely to gain greater visibility across the meeting



- **Outcome Relevance:** Functional outcomes, cognition, quality of life, caregiver burden, and disparities are expected to remain central across multiple disease areas





AAN 2026– Conference Themes



- **Alzheimer's Expansion:** Alzheimer's data are expected to focus on anti-amyloid optimization, ARIA management, semaglutide, anti-tau strategies, and early biomarker-based diagnosis
- **Parkinson's Innovation:** Parkinson's research is likely to emphasize motor and non-motor control, cell therapy, DBS advances, LRRK2 targeting, and biomarker development
- **Neuroimmunology Advances:** MS, NMOSD, CIDP, and myasthenia gravis are expected to highlight complement inhibition, FcRn strategies, BTK inhibitors, and cellular therapies
- **Migraine Competition:** Headache presentations are likely to show increasing differentiation across CGRP agents, gepants, acute rescue options, and pediatric prevention
- **Epilepsy Precision:** Epilepsy content is poised to advance through syndrome-specific therapies, neuromodulation, seizure biomarkers, and refractory disease management
- **Stroke Strategy Shift:** Stroke data are expected to extend from reperfusion toward prevention, thrombectomy optimization, anticoagulation, recovery, and vascular cognitive outcomes

Noteworthy Scientific presentations at AAN 2026





Key Topics From Notable Presentations (1/6)



- **Alzheimer's Disease, Dementia and Cognitive Disorders:** AAN 2026 is expected to show that Alzheimer's management is moving toward a broader, more practical model that combines anti-amyloid benefit-risk optimization with biomarker-guided, stage-specific, and symptom-targeted therapies
- **Anti-amyloid Therapy and ARIA Management:** Sessions will highlight the continued centrality of anti-amyloid strategies, with lecanemab showing modest but consistent benefit across 4,862 patients, real-world ALZ-NET data reporting ARIA-E 5% and ARIA-H 7%, and post-plaque analyses suggesting continued treatment may preserve added slowing versus stopping early
- **Pipeline Diversification Beyond Amyloid:** Presentations will expand beyond plaque removal, highlighting valiltramiprosate's strongest signal in APOE4/4 MCI, semaglutide's reductions in CSF p-tau181, total tau, and neurogranin, intranasal insulin's modest cognitive benefit in 611 patients, and sleep/agitation programs including suvorexant, melatonin, and masupirdine



Key Topics From Notable Presentations (2/6)



- **Epilepsy, Seizures and Sleep Disorders:** Emerging evidence will suggest that care in epilepsy and sleep disorders is moving toward a broader treatment framework, where symptom reduction, functional recovery, behavioral outcomes, and caregiver impact are becoming equally important measures of benefit
- **Therapeutic Breadth in High-need Populations:** Experts will discuss how management is expanding across refractory epilepsy and narcolepsy, with data spanning cenobamate, cannabidiol, ketogenic diet therapy, CM-RNS, AXS-12, and ovesporexton; notably, ovesporexton showed significant efficacy across sleep latency, ESS, and weekly cataplexy in 168 patients with narcolepsy type 1
- **Function and Daily Burden Beyond Seizure Control:** Conference discussions will emphasize that clinical value increasingly extends beyond seizure counts, as caregiver-reported data in DEEs showed 27.0% daily disruptive sleep, 24.5% temporary ADL loss, and 21.5% communication loss, while psychosocial and dietary interventions demonstrated benefits in cognition, anxiety, quality of life, and treatment burden



Key Topics From Notable Presentations (3/6)



- **Headache and Migraine:** Presentation will explore how migraine management is becoming increasingly individualized, where treatment selection is driven not only by efficacy but also by cognitive outcomes, comorbidity burden, and real-world response variability.
- **CGRP Era Expansion and Real-world Optimization:** Discussions will show how CGRP-targeted therapies are evolving beyond efficacy into functional benefit, with eptinezumab improving cognitive symptoms in ~50–58% by Month 6, rimegepant reducing monthly migraine days by 2.8 with 38.9% ≥50% responders, and ubrogepant + atogepant showing strong real-world treatment optimization across 1,614 attacks
- **Unmet Need in Complex and High-burden Subtypes:** Trials will highlight persistent gaps in harder-to-treat populations, with menstrual migraine affecting 61.0% of women and showing poor treatment optimization, triptan failure linked to declining 2-hour pain freedom (31.6%→17.6%), and emerging interventional and mechanistic approaches addressing cortical excitability, inflammation, and vascular risk



Key Topics From Notable Presentations (4/6)



- **Movement Disorders and Neuromodulation:** The sessions are expected to move toward integrated management strategies, where continuous delivery systems, earlier adjunct optimization, and novel technologies collectively aim to stabilize both motor and non-motor disease burden over time
- **Shift Toward Continuous and Personalized Parkinson's Care:** Experts will discuss how treatment is evolving beyond oral regimens, with CREXONT increasing "Good On" time by ~1.8–3.1 hours, continuous foslevodopa/foscarbidopa resolving dyskinesia in ~36–61%, and infusion therapies delivering rapid, sustained improvements in pain and non-motor burden
- **Emergence of Next-generation and Non-pharmacologic Strategies:** Discussions will highlight innovation across neuromodulation and disease modification, including decentralized trials enrolling 350 patients with ~80% adherence, modeling-driven therapies like ecopipam with ≥90% predicted efficacy probability, and exploratory platforms such as nanoparticle delivery for Huntington's disease



Key Topics From Notable Presentations (5/6)



- **Multiple Sclerosis and Neuroimmunology:** Experts will discuss a more layered neuroimmunology strategy, where novel immune targets, earlier intervention, and function-focused monitoring increasingly define how long-term disease control is pursued
- **Mechanistic Expansion Beyond Conventional Immunotherapy:** Highlight will be on how neuroimmunology pipelines are broadening through FcRn inhibition, C1s/C2 complement targeting, and C5 blockade, with SC efgartigimod producing 87.5% confirmed improvement in treatment-naïve CIDP, rili-/empasiprubar advancing in Phase 3 CIDP programs, and NMOSD registry data showing ARR reduction from 0.50 to 0.02 on Alexion C5 inhibitors
- **Earlier Detection, Functional Preservation, and Real-world Burden:** Discussions will emphasize that treatment goals are shifting toward earlier control and multidomain monitoring, as ocrelizumab preserved ambulation in 82.2% and hand function in 93.5% over 6 years, while digital tools such as MSCopilot® showed good reliability (ICC 0.64–0.77) and U.S. claims analyses underscored persistent clinical and economic burden in untreated RRMS and SPMS



Key Topics From Notable Presentations (6/6)



- **Stroke and Cerebrovascular Disorders:** The cerebrovascular program is expected to underscore that future stroke management will depend not only on acute treatment speed, but also on sharper etiologic classification, better prevention targeting, and stronger post-event care pathways
- **Secondary Prevention and Etiologic Refinement:** Stroke care is moving toward more precise risk stratification, with early anticoagulation analyses across >32,000 patients favoring earlier initiation after AF-related stroke, proteomic panels identifying AF-associated stroke signatures with cvAUC 0.83, and immune markers such as CXCL10 emerging as independent predictors of incident stroke
- **Broadening Focus Beyond Reperfusion Alone:** Sessions will examine the wider cerebrovascular pathway, including post-stroke dementia risk linked to severe ICA calcification, safe use of MMA embolization in 154 procedures for acute/acute-on-chronic SDH, persistent education and access gaps after TIA and among Deaf ASL users, and comparable efficacy of rhPro-UK versus alteplase across 3,774 AIS patients



Focus of Key Industry-Sponsored Sessions at AAN 2026 (1/5)

- **UCB:**

- Focus Areas: FINTEPLA in Dravet syndrome and Lennox-Gastaut syndrome
- Session will highlight new clinical and real-world evidence for fenfluramine, with emphasis on treatment effectiveness and positioning in severe developmental and epileptic encephalopathies

- **BMS:**

- Focus Areas: Stroke Prevention, Atrial Fibrillation, and FXI/FXIa Inhibition
- Discussion will center on unmet needs in secondary stroke prevention for patients with atrial fibrillation and the emerging role of factor XI/XIa inhibition

- **Kyverna Therapeutics:**

- Focus Areas: CD19 CAR-T and Neurologic Autoimmune Diseases
- Session will focus on miv-cel and the potential of CD19 CAR-T to reshape treatment strategies across severe neurologic autoimmune conditions



Focus of Key Industry-Sponsored Sessions at AAN 2026 (2/5)

- **AbbVie:**

- Focus Areas: Advanced Parkinson's Disease and Continuous Therapy
- Presentation will emphasize 24-hour continuous treatment approaches in advanced Parkinson's disease, using case-based discussion to address practical care decisions

- **Alexion, AstraZeneca:**

- Focus Areas: Complement Inhibition in Autoimmune Neurology and gMG
- Sessions will cover complement biology, practical management of autoimmune neurologic diseases, and expert perspectives on C5 inhibition in anti-AChR antibody-positive generalized myasthenia gravis

- **Lundbeck:**

- Focus Areas: Brain Health Innovation across Migraine, Multiple System Atrophy, and DEE
- Session will showcase innovation in complex neurological disorders, spanning headache, neurodegeneration, and developmental and epileptic encephalopathies



Focus of Key Industry-Sponsored Sessions at AAN 2026 (3/5)

- **Amgen:**

- Focus Areas: Novel Treatment Approaches in Generalized Myasthenia Gravis
- Session will focus on advancing care in gMG through a new therapeutic approach, likely emphasizing unmet needs and treatment innovation

- **Eli Lilly:**

- Focus Areas: Alzheimer's Disease Care Pathways, Donanemab, and Amyloid PET Education
- Sessions will span neurology–primary care collaboration, clinical use of Kisunla, and florbetapir F18 reader training, reflecting Lilly's broad Alzheimer's disease strategy

- **Sanofi:**

- Focus Areas: Early Disability Detection in MS and Evolving CIDP Management
- Sessions will address the impact of earlier disability recognition in multiple sclerosis and practical, science-driven approaches to chronic inflammatory demyelinating polyradiculoneuropathy care





Focus of Key Industry-Sponsored Sessions at AAN 2026 (4/5)

- **Pfizer:**

- Focus Areas: Migraine Management and CGRP Receptor Antagonist Data
- Presentations will center on migraine management in neurology practice, with discussion of the latest gepant data and case-based clinical application

- **Genentech:**

- Focus Areas: Early MS Biology, Imaging, and Disease Continuum
- Presentation will explore multiple sclerosis as a disease continuum, highlighting early clinical, imaging, and biologic changes that may shape long-term trajectory

- **Octapharma:**

- Focus Areas: Immunoglobulin Therapy in Autoimmune Neurologic Disease
- Session will discuss how immunoglobulin data support real-world practice in autoimmune disease treatment and where it fits in routine neurological care

Focus of Key Industry-Sponsored Sessions at AAN 2026 (5/5)



- **Novartis:**

- Focus Areas: Ofatumumab Switching Strategies and Women's Health in MS
- Sessions will cover switching to KESIMPTA using clinical and real-world experience, alongside reproductive and menopause-related considerations in female MS patients

- **Biogen:**

- Focus Areas: Friedreich Ataxia Science and Disease Awareness
- Session will highlight the science of Friedreich ataxia, likely focusing on disease biology, unmet need, and broader awareness in neurology practice

- **AstraZeneca:**

- Focus Areas: Recognition of hATTR-PN in Neurology Practice
- Session will emphasize earlier recognition of hereditary transthyretin amyloid polyneuropathy and its practical relevance for neurologists.





Notable Presentations And Late-breaking Sessions At AAN 2026

Notable Presentations At AAN 2026

Headache and Migraine (1/10)



Date	Title	Author	Summary
19 April 2026	Real-world Improvements in Cognitive Symptoms After Eptinezumab Treatment in Patients in Whom ≥ 1 Prior Anti-CGRP Preventive Treatment had Failed: 6-month Results for the Ongoing INFUSE Study	Matthew M. Holecko	• Introduction: INFUSE interim data addressed a clinically important but underrecognized migraine burden: disabling cognitive symptoms despite prior preventive CGRP treatment failure. Baseline prevalence was high, especially brain fog and task-related impairment. • Methodology: Prospective real-world cohort of adults receiving eptinezumab; interim analysis included patients with baseline cognitive symptoms, 2 infusions, and completed baseline/Month 6 web-based patient-reported surveys. • Results: Baseline symptom burden was substantial. By Month 6, improvement occurred in brain fog (57.8%), decision-making (50.0%), reading (50.0%), and task completion (51.2%); benefits were detectable by Day 7. • Conclusions: Eptinezumab showed rapid, clinically meaningful cognitive benefit across multiple domains.
19 April 2026	Physical Therapist-delivered Biofeedback-assisted Relaxation for Migraine: A Qualitative Analysis of Results from a Pilot Randomized Controlled Trial	Mia T. Minen	• Introduction: This qualitative analysis explored patient perspectives on PT-delivered biofeedback-assisted relaxation (BAR) for migraine, extending a Grade A behavioral therapy beyond psychologist-led delivery. • Methodology: Twenty participants from a Phase 2a randomized parallel study completed 1:1 semi-structured exit interviews; thematic analysis evaluated perceptions, technique preferences, adherence patterns, and implementation barriers. • Results: PT-delivered BAR was well accepted, enabling cognitive reframing and strong recommendation intent. Patients favored specific techniques, continued use post-treatment, but reported adherence challenges and mixed views on delivery modality and accessibility. • Conclusions: PT-delivered BAR is feasible and acceptable, with patient-driven insights supporting protocol refinement to enhance real-world implementation and sustained adherence

Notable Presentations At AAN 2026

Headache and Migraine (2/10)



Date	Title	Author	Summary
19 April 2026	Occipital Nerve Block with Lidocaine for Acute Post-stroke Headache: Preliminary Results	Dean Zeldich	• Introduction: Acute post-stroke headache lacks evidence-based treatment, and standard migraine abortives are often contraindicated in acute stroke, creating a strong rationale for testing lidocaine occipital nerve block as a safer interventional option. • Methodology: Prospective, open-label observational study in acute stroke/neuro-ICU units; adults received bilateral greater and lesser occipital nerve blocks with 2% lidocaine, with pain and symptom assessment at baseline, 2 hours, and 24 hours. • Results: In 8 patients, median pain fell from 9.5 to 4 at both follow-ups, with early pain freedom in 37.5%, broad symptom improvement, low rescue medication use, and no serious adverse events. • Conclusions: Lidocaine occipital nerve block appears feasible, well tolerated, and potentially effective for acute post-stroke headache.
19 April 2026	Prevalence of Headache and its impacts on Academic and Social lives Among University Students in Egypt: A Cross-Sectional Study	Assia Zanat	• Introduction: This large student survey examined headache burden in Egyptian universities, where headache disorders are common and may disrupt functioning, well-being, and educational performance. • Methodology: Cross-sectional online/offline survey of 3,720 students; pilot-tested questionnaire, reliability assessment with Cronbach's alpha, and logistic/multivariable analyses linking headache with demographics, sleep, quality of life, productivity, and academic measures. • Results: Headache odds were higher in medical students, females, and older students. Greater headache frequency tracked with severe HIT-6 burden, poorer quality of life, sleep disturbance, and obesity/overweight, while GPA was not significant. • Conclusions: Headache burden was substantial and closely tied to modifiable lifestyle factors, especially sleep and weight.



Notable Presentations At AAN 2026

Headache and Migraine (3/10)



Date	Title	Author	Summary
19 April 2026	Associations Between Cortical Morphometry and Clinical Parameters in Migraine: 112-Patient Observational Study	Noboru Imai	• Introduction: This study addressed the unresolved link between migraine clinical heterogeneity and cortical structure, focusing on pain burden, disability, psychiatric symptoms, and sensory hypersensitivity. • Methodology: In 112 patients, FreeSurfer-derived cortical thickness, surface area, and gray matter volume across 68 regions were analyzed using ROI-wise adjusted linear regression with false discovery rate correction against standardized clinical and symptom measures. • Results: Age showed the strongest structural associations. Higher disability related to thicker cingulate, precuneus, and transverse temporal regions; depression linked to thinner temporal pole; phonophobia associated with lower right precuneus volume. • Conclusions: Migraine cortical morphology reflects symptom burden and comorbidity, supporting biologically informed patient stratification.
19 April 2026	Cortical Excitability Changes and Precipitation/Resolution of Migraine Attacks: A Study with Sound Induced Flash Illusions (SIFI)	Paolo Alonge	• Introduction: This study probed migraine cycle-dependent cortical excitability using SIFI, a perceptual paradigm in which reduced illusion susceptibility indexes heightened visual cortical excitability. • Methodology: One hundred migraine without aura patients were stratified by cycle phase—interictal, preictal, ictal, postictal—and compared with 25 matched controls using a standardized SIFI protocol measuring perceived flash number under audiovisual conflict. • Results: Excitability was elevated interictally versus controls, rose further preictally, peaked ictally, then declined postictally toward interictal levels. • Conclusions: Findings support a dynamic excitability model in migraine, with interictal hyperexcitability as a trait and peri-attack escalation/resolution as state phenomena.



Notable Presentations At AAN 2026

Headache and Migraine (4/10)



Date	Title	Author	Summary
20 April 2026	Uncovering the Neurological Substrates Underlying Restlessness in Cluster Headache – A Functional MRI Study	Jr-Wei Wu	• Introduction: This study examined the neural basis of attack-related restlessness in cluster headache, questioning whether it reflects aggression-circuit activation or disorder-specific brainstem network dysfunction. • Methodology: Twenty-four prospectively enrolled patients underwent fMRI during states with or without restlessness. ROI-to-ROI and seed-to-voxel connectivity analyses interrogated 32 regions linked to cluster headache pathophysiology and aggression circuitry, with multiple-comparison correction. • Results: Restlessness was associated with increased connectivity between contralateral locus coeruleus and ipsilateral substantia nigra pars compacta, plus reduced connectivity between ipsilateral substantia nigra and superior frontal gyrus. • Conclusions: Restlessness appears driven by LC–SNpc network dysfunction rather than a canonical aggression circuit.
20 April 2026	Prospective Open-label Pilot Study of Rimegepant as a Treatment for Cluster Headache	Carrie E. Robertson	• Introduction: This pilot study evaluated whether high-dose rimegepant, a CGRP receptor antagonist, could provide acute and short-term preventive benefit in cluster headache, an area with limited evidence for oral gepants. • Methodology: Twenty eligible patients were enrolled; 13 used rimegepant and 11 provided complete data. After 7-day baseline monitoring, patients took 150 mg at severe attack onset, then every other morning for 8 days. • Results: Mean attack frequency fell by 4.0/week, duration by 14.9 minutes, and 3 patients achieved >50% frequency reduction. Early pain improvement occurred in some; tolerability was generally favorable. • Conclusions: High-dose rimegepant showed preliminary activity in a subset of cluster headache patients.



Notable Presentations At AAN 2026

Headache and Migraine (5/10)



Date	Title	Author	Summary
20 April 2026	Treatment of Headache with Occipital Nerve Blocks: Comparison Trial of Anesthetic with or Without Dexamethasone	Carrie E. Robertson	• Introduction: This double-blind trial tested whether adding non-particulate dexamethasone to occipital nerve block anesthetic improves headache outcomes, addressing a persistent uncertainty in interventional headache practice. • Methodology: 118 adults undergoing bilateral greater/lesser occipital nerve blocks for non-cluster headache were randomized to anesthetic plus dexamethasone or anesthetic plus saline, with headache-day follow-up at 1, 2, and 4 weeks. • Results: Both groups improved similarly from baseline, but dexamethasone conferred no added benefit; weekly headache-day reductions were nearly identical across all visits. • Conclusions: Non-particulate steroid addition did not enhance occipital nerve block efficacy, reinforcing anesthetic-only practice for most non-cluster headache indications.
20 April 2026	Impact of the Number of Previous Triptans Tried on Triptan Effectiveness, Tolerability, and Healthcare Resource Use: Multicountry Results from the CaMEO-I Study	Zaza Katsarava	• Introduction: This analysis examined whether trying more triptans meaningfully improves outcomes in migraine, against recent guidance encouraging trial of three agents before declaring class non-response. • Methodology: Cross-sectional web survey across six countries stratified 4,216 ever-users by current use or prior trial of 1, 2, or ≥ 3 triptans, assessing doctor visits, 2-hour pain freedom, and tolerability. • Results: Greater triptan trialing tracked with more headache-related visits, lower rates of frequent 2-hour pain freedom (31.6%$\rightarrow$23.2%$\rightarrow$17.6%), and higher tolerability problems (40.3%$\rightarrow$54.7%$\rightarrow$72.2%). • Conclusions: Multiple triptan failures marked a progressively harder-to-treat, less tolerable migraine population.

Notable Presentations At AAN 2026

Headache and Migraine (6/10)



Date	Title	Author	Summary
21 April 2026	A Novel Pain Model Using Peripheral Low-level LPS Injections Causes Reduced Pain Thresholds: The Results of a Proof-of-Concept Study	Ayeong Kim	• Introduction: This proof-of-concept study tested whether repeated low-dose peripheral inflammation alone can induce central sensitization-like pain changes, addressing a key mechanistic gap in chronic pain biology. • Methodology: Eight C57BL/6J mice received weekly intraperitoneal low-dose LPS or saline for 4 weeks. Mechanical sensitivity was measured with von Frey testing before injection and after week 2; brain glial reactivity analyses are planned. • Results: After two injections, LPS-treated mice showed a significant reduction in 50% withdrawal threshold, while saline controls did not. • Conclusions: Early findings support systemic inflammation as a plausible driver of central sensitization-like hypersensitivity.
21 April 2026	Qualitative Study to Characterize the Patient-reported Experience of Menstrual Migraine	Jessica Ailani	• Introduction: This qualitative study addressed a key evidence gap by defining the patient experience of menstrual migraine and contrasting it with non-menstrual attacks. • Methodology: Twenty adults with frequent menstrual migraine completed semi-structured interviews capturing symptom burden, functional impact, and comparative attack characteristics, with severity and bothersomeness rated on 0–10 scales. • Results: Head pain, nausea, fatigue, concentration difficulty, and sound sensitivity predominated. Head pain and fatigue were most severe and bothersome. Work/school impairment and inability to function were common. Menstrual attacks were typically longer, more severe, more frequent, and more predictable than non-menstrual attacks. • Conclusions: Menstrual migraine carries substantial, distinctive burden.

Notable Presentations At AAN 2026

Headache and Migraine (7/10)



Date	Title	Author	Summary
21 April 2026	Characterizing a Population Reporting Menstrually Related Migraine: Multi-country Results from the Chronic Migraine Epidemiology and Outcomes-international (CaMEO-I) Study	Jessica Ailani	• Introduction: This multinational analysis evaluated the burden and treatment status of menstrual migraine, a subtype often described as more severe and less treatment-responsive than non-menstrual attacks. • Methodology: Cross-sectional web-based survey across six countries included women aged 18–50 meeting migraine criteria, excluding pregnancy and postmenopause; menstrual association and acute treatment optimization were assessed using self-report and mTOQ-4. • Results: Among 6,395 eligible respondents, 61.0% reported at least some attacks around menstruation. Chronic migraine and obesity were notable comorbid features. Acute treatment optimization was predominantly poor or very poor. • Conclusions: Menstrual migraine was common and inadequately controlled, highlighting substantial unmet management need.
21 April 2026	Efficacy of Symbravo® (MoSEIC(TM) meloxicam and rizatriptan) by Baseline Migraine-associated Disability: Post-hoc Analysis of the INTERCEPT Trial	Todd Grinnell	• Introduction: This post-hoc analysis examined whether baseline migraine disability modifies acute treatment response to Symbravo, extending Phase 3 efficacy findings into clinically relevant disability strata. • Methodology: Adults with 2–8 monthly attacks were randomized 1:1 to Symbravo or placebo for a single mild-pain attack; outcomes at 2 hours were stratified by baseline MIDAS disability category. • Results: Most participants had moderate/severe baseline disability. Symbravo improved normal functioning, pain freedom, MBS freedom, and rescue-medication avoidance, with the largest functional gain in the severe MIDAS subgroup. • Conclusions: Baseline disability appeared to modulate functional benefit, with greater disability associated with larger observable recovery.

Notable Presentations At AAN 2026

Headache and Migraine (8/10)



Date	Title	Author	Summary
21 April 2026	Long-term Effects of Symbravo® (MoSEIC(TM) meloxicam and rizatriptan) on Headache Burden and Quality of Life: Results of the MOVEMENT Trial	Todd Grinnell	• Introduction: This long-term analysis examined whether repeated acute use of Symbravo translates into sustained improvements in migraine-related disability, headache impact, and quality of life. • Methodology: In a Phase 3 open-label extension, 704 participants from prior randomized trials treated up to 10 attacks/month for up to 12 months; MIDAS, HIT-6, and MSQ measured longitudinal patient-reported outcomes. • Results: Baseline burden was severe. Symbravo produced sustained but modest reductions in disability and headache impact, alongside progressive improvement across MSQ functional and emotional domains; no new safety signals emerged. • Conclusions: Long-term Symbravo use appeared well tolerated and associated with durable patient-reported benefit.
21 April 2026	Safety and Effectiveness of Rimegepant for Acute Treatment of Migraine in Adults Unsuitable for Triptan Use: Results from a 12-week Open-label Extension Phase.	Peter J. McAllister	• Introduction: This extension addressed whether rimegepant retains safety and attack-to-attack consistency in patients unsuitable for triptans, a clinically important population with limited acute options. • Methodology: In a 12-week open-label extension, 552 adults treated moderate/severe attacks with rimegepant 75 mg ODT as needed, up to once daily. Safety, reliability across the first 5 attacks, and change in monthly migraine days were assessed. • Results: Completion was high (94.0%). Severe, serious, and discontinuation-related adverse events were rare. Response remained stable across repeated attacks, mean monthly migraine days fell by 2.8, and 38.9% achieved ≥50% reduction. • Conclusions: Rimegepant showed favorable safety, consistent repeat-attack effectiveness, and meaningful reduction in migraine frequency.



Notable Presentations At AAN 2026

Headache and Migraine (9/10)



Date	Title	Author	Summary
21 April 2026	Real-world Acute Treatment Optimization for Migraine with Ubrogepant: Results from the COURAGE II Study	Stephanie J. Nahas	• Introduction: This real-world analysis examined whether ubrogepant remains clinically effective and functionally meaningful when used acutely in patients already receiving atogepant prevention. • Methodology: COURAGE II prospectively followed adults with physician-diagnosed migraine using both agents and the Migraine Buddy app; 30-day outcomes were assessed with the 6-item mTOQ. • Results: Among 352 participants and 1,614 treated attacks, treatment optimization was favorable: many reported rapid return to normal activity, 2-hour pain freedom, sustained single-dose relief, and confidence to plan daily activities. • Conclusions: Ubrogepant plus atogepant showed strong real-world acute optimization without new safety concerns.
21 April 2026	Reasons for Discontinuing Triptans Among Current Users of Rimegepant for the Acute Treatment of Migraine in the CONFIDENCE Study	Karin Hygge Blakeman	• Introduction: This real-world analysis examined why patients discontinued prior triptans despite later using rimegepant, addressing an important barrier in acute migraine management. • Methodology: CONFIDENCE enrolled 416 US adults with 3–14 headache days/month planning rimegepant use; participants reported numbers of lapsed triptans and discontinuation reasons from predefined categories. • Results: Triptan lapse was common, with most patients discontinuing 1 or more agents. Leading reasons were insufficient pain reduction, side effects, loss of effectiveness over time, and slow onset. Poor efficacy-related reasons increased with more lapsed triptans, whereas side effects remained consistently frequent. • Conclusions: Triptan discontinuation appears driven chiefly by inadequate and unreliable efficacy, with tolerability a persistent parallel limitation.

Notable Presentations At AAN 2026

Headache and Migraine (10/10)



Date	Title	Author	Summary
21 April 2026	Weight Loss With Atogepant in Participants with Migraine and Overweight or Obesity: Interim Analysis of a Phase 3, Multicenter, Open-label, 156-week Extension Study	Jessica Ailani	• Introduction: This post hoc analysis assessed weight change during long-term atogepant 60 mg once-daily treatment in migraine patients with overweight/obesity, a clinically relevant subgroup with frequent cardiovascular risk factors. • Methodology: Data came from a 52-week interim analysis of a Phase 3 open-label extension; outcomes included mean weight change, proportions achieving $\geq 5\%$/$\geq 10\%$ loss, and weight-related adverse events. • Results: Mean weight fell early and reached 3.44 kg by week 52. Clinically meaningful loss occurred in 34.9% ($\geq 5\%$) and 12.8% ($\geq 10\%$), with low, non-serious weight-related adverse events. • Conclusions: Atogepant was associated with sustained, clinically meaningful weight reduction in many patients.
21 April 2026	Beyond Atrial Shunt-A Comprehensive Study of Echocardiogram Findings and Their Association with Adverse Vascular Events in Patients with Migraine	Ping-Hao Yang	• Introduction: This large retrospective cohort examined whether structural and functional echocardiographic abnormalities differ by aura status and predict future vascular risk in migraine. • Methodology: Investigators analyzed 12,778 adults with migraine and transthoracic echocardiography, comparing >2000 indexed findings between aura groups and modeling associations with myocardial infarction, ischemic stroke, venous thromboembolism, or death. • Results: Migraine with aura showed more shunts, RWMA, and broader chamber/valve abnormalities. RWMA and abnormalities involving the left ventricle, right ventricle, right atrium, and tricuspid valve independently predicted adverse vascular events.. • Conclusions: Echocardiographic phenotyping may refine vascular risk stratification in migraine, particularly in aura-associated disease.



Notable Presentations At AAN 2026

Alzheimer's Disease, Dementia and Cognitive Disorders (1/10)

Date	Title	Author	Summary
19 April 2026	Effects of Oral Valiltramiprosate on Clinical Efficacy, Safety, and Brain Volume Outcomes in APOE4/4 Homozygotes with Early Alzheimer's Disease (AD): Topline Results of the 78-week Phase 3 APOLLOE4 Trial	Susan Abushakra	• Introduction: This prespecified analysis tested whether valiltramiprosate, an oral amyloid-β oligomer inhibitor, provides greater benefit in APOE4/4 homozygotes with MCI-stage early Alzheimer's disease than in the broader early AD population. • Methodology: In a 78-week randomized, double-blind trial, participants received valiltramiprosate 265 mg BID or placebo; cognition, function, and hippocampal/brain atrophy were assessed by MMRM. • Results: Overall clinical endpoints were not significant, though hippocampal atrophy slowed. In prespecified MCI, drug favored cognition, function, hippocampal, cortical, and whole-brain atrophy, with nominal clinical significance and favorable safety. • Conclusions: Signal appears strongest in APOE4/4 MCI, supporting stage-specific disease-modifying potential.
19 April 2026	Microglia PET Imaging Pre- and Post- Anti-amyloid Treatment with Lecanemab: A Case Study	Aubrey S. Johnson	• Introduction: This case study explored how lecanemab may alter neuroinflammation in early Alzheimer's disease, using TSPO PET as an in vivo marker of microglial activity, an important but insufficiently characterized therapeutic dimension. • Methodology: A 71-year-old woman with amnesic MCI underwent longitudinal TSPO PET before treatment and after 19 lecanemab infusions over 9 months, with standardized regional comparisons against amyloid-negative controls plus concurrent cognition and tau PET. • Results: Memory modestly improved, tau signal declined regionally, and TSPO signal increased markedly across frontal, temporal, parietal, occipital, and hippocampal regions. • Conclusions: Findings suggest lecanemab may recruit microglial responses linked to amyloid clearance and tissue maintenance.





Notable Presentations At AAN 2026

Alzheimer's Disease, Dementia and Cognitive Disorders (2/10)

Date	Title	Author	Summary
19 April 2026	<u>Baseline Characteristics and Preliminary Safety from a Multicenter, Safety Surveillance Study of Lecanemab Treatment for Alzheimer's Disease in Real-world Clinical Practice Using Alzheimer's Network for Treatment and Diagnostics (ALZ-NET) Registry</u>	Marwan Sabbagh	• Introduction: This registry surveillance study examined the real-world safety of commercial lecanemab, focusing on ARIA, where post-marketing data are essential beyond trial populations. • Methodology: Multicenter ALZ-NET registry participants receiving clinician-prescribed lecanemab were followed in routine practice; preliminary analysis assessed exposure duration and incidence, timing, severity, and consequences of ARIA and other serious events. • Results: Among 742 treated participants, ARIA-E occurred in 5% and ARIA-H in 7%, mostly within 6 months and usually mild-to-moderate. Discontinuations were uncommon; intracerebral hemorrhage >1 cm was rare (0.3%). • Conclusions: Early real-world safety aligns with the established lecanemab profile without new safety signals.
19 April 2026	<u>Benefit Continues to Accumulate When Treatment is Continued Beyond Plaque Clearance – Estimating Accumulating or Maintained Treatment Benefit in the CLARITY AD and TRAILBLAZER-ALZ2 Trials</u>	John D. Whetten	• Introduction: This comparative modeling analysis addressed a key therapeutic question in early Alzheimer's disease: whether anti-amyloid treatment should continue after plaque clearance or can be safely stopped without losing incremental benefit. • Methodology: Post hoc analyses contrasted donanemab-treated plaque clearers switched to placebo with severity-matched simulated placebo controls, and compared ongoing lecanemab treatment with mapped placebo progression from months 12–18. • Results: Stopping donanemab after plaque clearance preserved a milder disease state, yielding ~17% slowing, whereas continued lecanemab treatment produced greater additional slowing (~29%). • Conclusions: Continued anti-amyloid therapy appears to confer incremental benefit beyond plaque clearance.



Notable Presentations At AAN 2026



Alzheimer's Disease, Dementia and Cognitive Disorders (3/10)

Date	Title	Author	Summary
19 April 2026	Lumbar Tap Trial for the Evaluation of Normal Pressure Hydrocephalus	Abigail McKenna	• Introduction: This large retrospective analysis evaluated lumbar tap trials as a screening tool for shunt responsiveness across idiopathic, secondary, and neurodegenerative NPH populations. • Methodology: Among 248 patients, standardized pre/post tap assessments included TUG, timed walk, cognition, and bladder symptoms after removal of 30–50 mL CSF; positivity required objective gait improvement plus subjective benefit. • Results: Completion was high (95.6%) with only transient procedure-related symptoms. Objective gait gains, frequent subjective improvement, and a 70.0% positive tap-trial rate supported clinical utility; most positives proceeded to shunting. • Conclusions: Lumbar tap trial is a practical, well-tolerated screening strategy for NPH shunt selection.
19 April 2026	Treatment with XPro1595 of the 'ARIA-at-risk' Population of MINDFuL: Subpopulation Results of the 6-month Phase 2 Trial Targeting Neuroinflammation in Early Alzheimer's Disease	Kim Staats	• Introduction: This subgroup analysis examined XPro1595, a soluble TNF inhibitor, in early Alzheimer's disease patients at elevated ARIA risk, where non-amyloid approaches may offer a safer therapeutic alternative. • Methodology: In the Phase 2 randomized, double-blind MINDFuL trial, at-risk participants received weekly subcutaneous XPro1595 or placebo for 24 weeks; cognition, neuropsychiatric measures, biomarkers, and imaging were assessed. • Results: Among 140 at-risk participants, no ARIA occurred. Injection-site reactions were the main adverse event. Directional benefits favored XPro1595 across multiple endpoints, with nominally significant neuropsychiatric improvement in APOE ε4 homozygotes. • Conclusions: XPro1595 showed favorable safety and preliminary efficacy signals in an ARIA-vulnerable population.





Notable Presentations At AAN 2026

Alzheimer's Disease, Dementia and Cognitive Disorders (4/10)

Date	Title	Author	Summary
19 April 2026	A Retrospective Study of Urgent MRIs for Detection of ARIA in Lecanemab-treated Patients	Kathryn Fredrickson	• Introduction: This study examined how often urgent, symptom-triggered MRI identifies new or worsening ARIA during lecanemab treatment, addressing a practical gap in real-world monitoring beyond scheduled imaging. • Methodology: Investigators reviewed 530 treated patients and defined urgent MRI as imaging outside routine surveillance or repeat imaging after new/worsening symptoms despite a prior negative scan. • Results: Among 128 urgent MRIs, 10.2% detected ARIA. Headache was the main trigger and the commonest ARIA-associated symptom; dizziness and APOE ε4 carriership were also enriched. Scheduled symptom screening outperformed patient-initiated calls for ARIA detection. • Conclusions: Urgent MRI had modest but meaningful diagnostic yield, supporting risk-stratified symptom surveillance.
19 April 2026	Efficacy and Safety of Lecanemab in Early Alzheimer's Disease: A Meta-analysis of Clinical Trials	Marianna Leite	• Introduction: This meta-analysis assessed the aggregate efficacy and safety profile of lecanemab in early Alzheimer's disease, where effect size interpretation across trials remains clinically important. • Methodology: Six published trials totaling 4,862 patients were pooled using random-effects models; efficacy was summarized by mean differences and safety by pooled ARIA event rates, with heterogeneity quantified by I². • Results: Lecanemab significantly slowed decline on CDR-SB and ADAS-Cog14 with low heterogeneity. Biomarker and ADCOMS findings were directionally favorable but highly heterogeneous. Pooled ARIA-E and ARIA-H incidences were 13% and 11%. • Conclusions: Lecanemab shows consistent modest clinical benefit but clinically relevant ARIA risk.



Notable Presentations At AAN 2026



Alzheimer's Disease, Dementia and Cognitive Disorders (5/10)

Date	Title	Author	Summary
19 April 2026	Trends in the Burden of Alzheimer's Disease and Other Dementias Among Older Adults in Pakistan and its Provinces, 1990-2023: Findings from the Global Burden of Disease Study 2023	Bhumi D. Patel	• Introduction: This epidemiologic analysis quantified the evolving dementia burden in Pakistan, where population aging and uneven healthcare capacity likely amplify regional vulnerability. • Methodology: Using GBD 2023 data, investigators assessed prevalence, incidence, mortality, DALYs, and YLDs in adults aged ≥ 70 years across Pakistan and provinces from 1990–2023, reporting age-standardized rates and annualized percent change. • Results: Absolute prevalence, incidence, deaths, DALYs, and YLDs rose markedly. Mortality increased fastest, while age-standardized DALY and YLD rates slightly declined. Women had consistently higher prevalence/YLD burden; Balochistan and Punjab showed distinct relative versus absolute burden patterns. • Conclusions: Dementia burden is expanding substantially, demanding province-specific surveillance, care infrastructure, and caregiver support.
19 April 2026	Effects of Semaglutide on Alzheimer's Disease-related Biological Processes: Results from a Biofluid Biomarker and Multiomics Immunophenotyping Phase 3 Study in Patients with Early Alzheimer's Disease After 12 Weeks of Treatment	Dylan M. Belmont-Rausch	• Introduction: This mechanistic trial evaluated semaglutide as a potential disease-modifying therapy in early Alzheimer's disease, focusing on molecular, biomarker, and immune effects beyond symptomatic endpoints. • Methodology: In a 12-week randomized, double-blind, placebo-controlled study, 23 amyloid-positive participants received semaglutide or placebo; CSF/blood transcriptomics were co-primary, with biomarker, proteomic, and immune-cell analyses exploratory. • Results: Aggregated transcriptomics were not significantly different, but semaglutide reduced CSF p-tau181, total tau, and neurogranin, while shifting proteomic and immune signatures toward reduced NK/CD8 cytotoxicity and altered innate-lysosomal activity. • Conclusions: Semaglutide showed biologically meaningful central target engagement despite limited transcriptomic separation.





Notable Presentations At AAN 2026

Alzheimer's Disease, Dementia and Cognitive Disorders (6/10)

Date	Title	Author	Summary
19 April 2026	<u>Safety and ARIA Analyses of Oral Anti-amyloid Oligomer Agent Valiltramiprosate in APOE4/4 Homozygotes with Early Alzheimer's Disease (AD): Results of the Phase 3 78-week APOLLOE4 Trial</u>	Earvin Liang	• Introduction: This Phase 3 safety analysis evaluated valiltramiprosate in APOE4/4 early Alzheimer's disease, a population at elevated ARIA and cerebrovascular risk with limited safe disease-modifying options. • Methodology: In a randomized, placebo-controlled trial (n=325), participants received 265 mg BID with serial MRI monitoring for ARIA; baseline microhemorrhages and siderosis were permitted. • Results: ARIA-E incidence was low and similar across arms (~3%), all asymptomatic; ARIA-H was lower with treatment. Gastrointestinal adverse events were most common, generally mild-to-moderate, with manageable weight loss. • Conclusions: Valiltramiprosate demonstrated favorable safety, including low ARIA risk, supporting a strong benefit-risk profile in APOE4/4 patients.
19 April 2026	<u>Effects of Pharmacologic Interventions on Objective Sleep Architecture and Continuity in Alzheimer's Disease: A Network Meta-analysis of Randomized Trials</u>	Tejaswin Mariappan	• Introduction: This meta-analysis addressed a clinically relevant gap in Alzheimer's disease, where sleep disruption is common yet comparative evidence across hypnotic drug classes remains limited. • Methodology: PRISMA-guided systematic review and network meta-analysis of 11 randomized trials, using frequentist and Bayesian random-effects approaches to compare objective polysomnography/actigraphy sleep outcomes. • Results: Suvorexant showed the most robust efficacy, significantly improving total sleep time, sleep efficiency, and wake after sleep onset. Lemborexant showed modest signals for sleep efficiency, while zolpidem and zopiclone ranked highest for night awakenings without statistical significance. • Conclusions: Suvorexant currently has the strongest objective evidence for improving sleep continuity in Alzheimer's disease.





Notable Presentations At AAN 2026

Alzheimer's Disease, Dementia and Cognitive Disorders (7/10)

Date	Title	Author	Summary
19 April 2026	Clinical Improvisatory Music for Alzheimer's Disease Anxiety and Caregivers (CIMAC): Preliminary Behavioral and Network Modulation Findings from Ongoing Trials	Catherine Vidano	• Introduction: This feasibility study examined clinically designed improvisatory music as a non-pharmacologic strategy for anxiety in Alzheimer's disease and associated caregiver burden, targeting emotional and autonomic network dysfunction. • Methodology: Fifteen affected individuals and 12 caregivers underwent delayed-enrollment assessment with pre/post intervention measures of anxiety, burden, vital signs, and fMRI connectivity across salience, reward, auditory-limbic, and default mode networks. • Results: Music intervention reduced anxiety and caregiver burden, lowered selected physiological stress markers, and increased connectivity in key emotional networks, with caregiver network changes correlating significantly with burden reduction. • Conclusions: CDIM appears feasible and biologically active, supporting further controlled study.
19 April 2026	Include Us: A Pilot Study to Enhance Alzheimer's Disease Research Literacy Among Black/African American Older Adults	GaResia Woods	• Introduction: This pilot addressed a major equity gap in Alzheimer's research by testing a culturally tailored literacy intervention for Black/African American older adults, a population with higher dementia risk but persistent underrepresentation in studies. • Methodology: INCLUDE US adapted an established community research curriculum into a 90-minute AD-focused session. Four participants completed pre/post knowledge testing plus feasibility and satisfaction assessments. • Results: Feasibility and engagement were excellent. Knowledge improved from 59.6% to 73.1%, confidence increased, and participants valued culturally relevant examples, clear trial explanations, and community-led delivery. • Conclusions: INCLUDE US shows promising feasibility and early educational impact, warranting expansion and community co-development.





Notable Presentations At AAN 2026

Alzheimer's Disease, Dementia and Cognitive Disorders (8/10)

Date	Title	Author	Summary
19 April 2026	The Role of Anti-hypertensive Drug Length of Use on Progression to Cognitive Impairment within the Alzheimer's Disease Neuroimaging Initiative Study Dataset	Sindhu V. Potlapalli	• Introduction: This analysis explored whether longer antihypertensive exposure protects against transition from normal cognition to MCI, addressing the vascular contribution to early cognitive decline. • Methodology: Retrospective ADNI analysis (2005–2022) of 440 participants used ordinal logistic regression, adjusted for clustering and major demographics, to test duration-of-use effects across antihypertensive classes. • Results: Longer use of thiazides, ACE inhibitors, ARBs, and β-blockers was associated with lower odds of progression to MCI, with thiazides showing the strongest signal. CCBs, loop diuretics, and potassium-sparing diuretics showed no clear protection. • Conclusions: Specific antihypertensive classes may confer class-dependent neuroprotective associations.
19 April 2026	Efficacy and Safety of Intranasal Insulin Therapy in Mild Cognitive Impairment and Alzheimer's Disease: A Systematic Review and Meta-analysis of Randomized Controlled Trials	Tirath Patel	• Introduction: This meta-analysis evaluated intranasal insulin as a CNS-targeted strategy to address impaired brain insulin signaling in MCI and Alzheimer's disease. • Methodology: Six RCTs (N=611) were pooled using PRISMA-guided random-effects models; cognitive, functional, and behavioral outcomes were assessed alongside safety. • Results: Intranasal insulin produced modest but significant short-term cognitive improvement (ADAS-cog, memory), with stronger effects in APOE4 carriers. Functional outcomes were inconsistent, behavioral benefits modest, and safety comparable to placebo. • Conclusions: Intranasal insulin shows limited but meaningful short-term cognitive benefit, with insufficient evidence for sustained functional impact.





Notable Presentations At AAN 2026

Alzheimer's Disease, Dementia and Cognitive Disorders (9/10)

Date	Title	Author	Summary
19 April 2026	<u>Comparative Effects of Pharmacologic Interventions on Subjective and Functional Sleep-Wake Outcomes in Alzheimer's Disease: A Network Meta-Analysis of Randomized Controlled Trials</u>	Praveen Nandha Kumar Pitchan Velammal	• Introduction: This network meta-analysis addressed limited guidance on drug treatment for sleep-wake dysfunction in Alzheimer's disease, emphasizing subjective and functional sleep outcomes. • Methodology: Eleven randomized trials across eight pharmacologic interventions were synthesized using PRISMA-guided frequentist and Bayesian random-effects network meta-analysis of polysomnography/actigraphy-derived sleep parameters. • Results: Melatonin showed the strongest and most consistent nocturnal sleep benefit, particularly at lower doses for total sleep time and subjective sleep quality. Lemborexant showed promising daytime regulation signals, whereas galantamine offered minimal benefit. • Conclusions: Melatonin appears the leading pharmacologic option for subjective sleep improvement in Alzheimer's disease, while orexin antagonists warrant further validation.
19 April 2026	<u>GLP-1 Receptor Agonists in Alzheimer's Disease: A Living Systematic Review Integrating Clinical Trials, Real-world Evidence, and Translational Feasibility</u>	Aditya Jain	• Introduction: This living review assessed GLP-1 receptor agonists as repurposed Alzheimer's therapies, integrating mechanistic plausibility with clinical and population-level evidence. • Methodology: Phase 2/3 trials and large real-world studies of liraglutide, semaglutide, and exenatide (2000–2025) were synthesized, with efficacy, biomarkers, safety, delivery, and scalability mapped in an Efficacy–Feasibility Matrix. • Results: Liraglutide showed biomarker/neurodegeneration signals despite neutral primary outcomes; exenatide remained underpowered. Large diabetic cohorts consistently linked GLP-1 use to 20–35% lower dementia incidence, strongest for semaglutide. • Conclusions: GLP-1 RAs appear the most mature repurposing strategy, with semaglutide offering the strongest translational potential.



Notable Presentations At AAN 2026

Alzheimer's Disease, Dementia and Cognitive Disorders (10/10)



Date	Title	Author	Summary
19 April 2026	Masupirdine (A Pure 5-HT6 Receptor Antagonist): Clinical Development Program Targeting Agitation in Alzheimer's Dementia – Phase-3 Study Updates	Ramakrishna Nirogi	• Introduction: This abstract addresses agitation in Alzheimer's dementia, a highly burdensome neuropsychiatric symptom with limited approved treatment options, and evaluates masupirdine as a mechanistically novel 5-HT6 receptor antagonist. • Methodology: Evidence integrates preclinical behavioral and microdialysis studies, subgroup findings from a Phase 2 trial, and ongoing Phase 3 global evaluation in patients with Alzheimer's dementia and agitation. • Results: Preclinical data suggested reduced aggression and relevant neurotransmitter modulation. Phase 2 subgroup analyses indicated agitation benefit with favorable tolerability. Phase 3 enrollment reached ~45%, with representative baseline characteristics. • Conclusions: Masupirdine remains a promising investigational candidate, but definitive efficacy awaits Phase 3 readout.

Notable Presentations At AAN 2026

Movement Disorders and Neuromodulation (1/10)



Date	Title	Author	Summary
19 April 2026	Influence of Insurance Status on Long-term Outcomes of Deep Brain Stimulation for Parkinson's Disease: A Single-center Retrospective Cohort Study	Mahnoor Haq	• Introduction: This study evaluated whether insurance type influences long-term functional outcomes after deep brain stimulation in Parkinson's disease, addressing potential socioeconomic disparities in advanced neuromodulation care. • Methodology: A single-center retrospective cohort of 123 DBS-treated PD patients was analyzed using survival and generalized linear models, adjusting for demographic and disease variables as well as stimulation parameters including total electrical energy delivered (TEED). • Results: Medicaid insurance was initially associated with faster progression to dependency, but this effect was not significant after adjustment. In contrast, faster increases in TEED independently correlated with worse ambulatory decline. • Conclusions: Apparent insurance-related outcome differences were largely explained by clinical and stimulation factors; TEED trajectory may better reflect long-term functional progression.
19 April 2026	Feasibility of an Entirely Remote, Decentralized, Phase 3 Trial of a Light Therapy Device for Parkinson's Disease	Dan Adams	• Introduction: This study evaluated the feasibility of a fully decentralized phase 3 trial of an investigational light therapy device in Parkinson's disease, reflecting growing interest in remote clinical trial models. • Methodology: Participants were randomized to active or control evening light therapy for six months with all procedures conducted remotely, including recruitment, monitoring, device shipment, and app-based adherence tracking. • Results: From 5,349 pre-screened individuals, 350 were enrolled. Adherence was high (~80% session completion), though withdrawals occurred due to time burden, adverse events, and life changes, with moderate attrition over follow-up. • Conclusions: Decentralized trial execution was feasible with strong engagement, though retention challenges highlight the need for improved participant support strategies.



Notable Presentations At AAN 2026

Movement Disorders and Neuromodulation (2/10)



Date	Title	Author	Summary
19 April 2026	Exposure-response (ER) and Clinical Trial Simulations for Efficacy of Ecopipam in Adults and Pediatrics with Tourette's Syndrome (TS)	Stephen Wanaski	• Introduction: This modeling analysis evaluated ecopipam, a selective D1 receptor antagonist, for Tourette syndrome, focusing on exposure–response relationships and potential efficacy across adult and pediatric populations. • Methodology: Integrated population pharmacokinetic and exposure–response models used data from Phase 2b and Phase 3 studies, with clinical trial simulations assessing probability of achieving predefined efficacy thresholds (YGTSS-TTS $\geq 25\%$ improvement). • Results: Combined active exposure and age were key predictors of response. Simulations suggested $\geq 90\%$ probability of demonstrating clinically meaningful efficacy in a combined adult–pediatric randomized trial. • Conclusions: Modeling supports a strong predicted efficacy signal for ecopipam across age groups in Tourette syndrome.
19 April 2026	NanoSentinel: A Nanoparticle Carrier to Enhance Blood–Brain Barrier Delivery of Huntingtin-Lowering Therapy in Huntington's Disease – A Conceptual Feasibility Study	Piyush Roy	• Introduction: This conceptual study proposes NanoSentinel, a nanoparticle platform designed to enhance antisense oligonucleotide delivery across the blood–brain barrier in Huntington's disease, addressing limitations seen with prior HTT-lowering therapies. • Methodology: Computational pharmacokinetic and delivery modeling compared TfR-mediated nanoparticle BBB transport with intrathecal tominersen, evaluating predicted striatal uptake, neuronal delivery efficiency, and safety risk scenarios. • Results: Simulations suggested improved BBB penetration ($\sim 15\%$) and up to 3–8$\times$ higher striatal exposure than intrathecal delivery under optimistic assumptions, with potential $> 50\%$ mHTT reduction but risks including endosomal escape failure and neuroinflammation. • Conclusions: NanoSentinel is a theoretical strategy to improve CNS ASO delivery in Huntington's disease, requiring preclinical validation.

Notable Presentations At AAN 2026

Movement Disorders and Neuromodulation (3/10)



Date	Title	Author	Summary
19 April 2026	Identification of Functional Impairment in Individuals with Huntington's Disease Chorea: A Modified Delphi Consensus Study	Olga Klepitckaya	• Introduction: This study aimed to develop a brief clinical assessment tool to better capture functional impairment from Huntington's disease chorea, addressing limitations of existing motor severity scales that do not reflect daily-life impact. • Methodology: A modified Delphi process included neurologists, patients, and care partners across two survey rounds (2025), rating 29 candidate items for relevance and consensus based on median scores and interquartile agreement. • Results: Strong agreement emerged across stakeholder groups, with consensus increasing from 52% to 83% of items. Functional domains most consistently prioritized included speech, gait/mobility, activities of daily living, and social functioning. • Conclusions: The Delphi process supports development of a patient-centered tool to identify chorea-related functional impairment in Huntington's disease.
19 April 2026	Longitudinal Endpoint Assessment of Disease Burden in Huntington's Disease (LEAD-HD): A Remote Natural History Study of Huntington's Disease	Jamison Seabury	• Introduction: This longitudinal study evaluated whether Huntington's disease-specific patient-reported outcome tools can reliably capture symptom burden and progression in real-world settings, addressing the need for sensitive clinical trial endpoints. • Methodology: Adults with HD enrolled in a 2-year remote myHDStory platform study completed HD-HI, HD-PROP, TFC, and health literacy measures at baseline and planned follow-ups at 6–24 months. • Results: Interim baseline data (n=31 complete) showed moderate disease burden. Key patient-reported issues included balance impairment, memory loss, reduced reading enjoyment, social difficulties, and executive dysfunction. • Conclusions: Early findings support feasibility of longitudinal PRO collection in HD, with ongoing follow-up needed to validate sensitivity to disease progression.

Notable Presentations At AAN 2026

Movement Disorders and Neuromodulation (4/10)



Date	Title	Author	Summary
19 April 2026	Frequency and Pathological Substrates of REM Sleep Behavior Disorder in Neurodegenerative Diseases: A Brain Bank Study	Hiroaki Sekiya	• Introduction: This autopsy-based study evaluated how reliably REM sleep behavior disorder predicts underlying neurodegenerative pathology, particularly α-synucleinopathy, while addressing diagnostic limitations of RBD as a biomarker. • Methodology: Brain bank records (1998–2023) were reviewed for 1,391 cases with documented or polysomnography-confirmed probable RBD; clinical diagnoses were compared against neuropathological findings. • Results: Probable RBD strongly associated with α-synucleinopathy (78% vs 32%). PSG-confirmed RBD showed similar enrichment. However, ~22% of RBD cases lacked synuclein pathology, most commonly showing tauopathies such as PSP and CBD. • Conclusions: RBD is a strong but not exclusive predictor of synucleinopathy, with important implications for biomarker interpretation.
19 April 2026	Effectiveness of Adaptive/Closed-loop Deep Brain Stimulation Compared to Conventional Deep Brain Stimulation in Patients With Parkinson's Disease: A Systematic Review and Meta-analysis of Randomized Trials	Matheus Rech	• Introduction: This meta-analysis assessed whether adaptive/closed-loop deep brain stimulation provides superior motor benefit compared with conventional continuous DBS in Parkinson's disease, addressing uncertainty from small heterogeneous trials. • Methodology: A preregistered systematic review (MEDLINE, Embase, CENTRAL) included four randomized crossover or parallel trials (N=63), pooling UPDRS-III changes using random-effects models and standardized mean differences. • Results: No significant difference was observed between aDBS and cDBS for motor improvement (SMD -0.12). Heterogeneity was moderate, with smaller studies favoring aDBS while the largest trial modestly favored cDBS. • Conclusions: Current evidence does not support a short-term motor superiority of adaptive DBS over continuous stimulation.

Notable Presentations At AAN 2026

Movement Disorders and Neuromodulation (5/10)



Date	Title	Author	Summary
19 April 2026	Younger Groundwater Associated with Greater Risk of Parkinson's Disease in Nationwide Medicare Study: Implications of Aquifer Type	Brittany Krzyzanowski	• Introduction: This population-based study investigated whether groundwater age and aquifer characteristics influence Parkinson's disease risk, given links between environmental neurotoxins and neurodegeneration. • Methodology: A case-control analysis of 12,370 PD cases and 1,224,174 controls used Medicare data linked to groundwater sampling sites across 21 aquifers, adjusting for demographic, environmental, and socioeconomic confounders. • Results: PD risk was higher in regions using carbonate aquifers and municipal/private groundwater. Newer groundwater exposure in carbonate systems was associated with increased PD risk, while older groundwater showed modest protective association within this subgroup. • Conclusions: Groundwater age and aquifer type may independently influence Parkinson's disease risk, potentially via contaminant exposure pathways.
19 April 2026	Neuropsychiatric Features of Parkinson's Disease And Parkinsonism: A Population-based Study 1991-2020	Emanuela Santoro	• Introduction: This population-based study evaluated the prevalence of neuropsychiatric symptoms and their association with mortality across Parkinson's disease (PD), Parkinson's disease dementia (PDD), and dementia with Lewy bodies (DLB). • Methodology: Incident Parkinsonism cases (1991–2020) from the Rochester Epidemiology Project were reviewed by movement disorder specialists; neuropsychiatric symptoms and psychosis were defined using standardized criteria and longitudinal records. • Results: Neuropsychiatric symptoms occurred in 28%, and psychosis in 7.2%. Risk was highest in DLB, followed by PDD. Both conditions significantly increased mortality risk, especially with coexisting dementia. • Conclusions: DLB and PDD are strongly associated with neuropsychiatric complications and higher mortality risk.

Notable Presentations At AAN 2026

Movement Disorders and Neuromodulation (6/10)



Date	Title	Author	Summary
19 April 2026	Gender-based Differences in Parkinson's Disease Hospitalization: A Nationwide and Single Center Study	Zhimin Xu	• Introduction: his study examined sex-based differences in hospital utilization among patients with Parkinson's disease, focusing on admission causes, length of stay, and discharge outcomes. • Methodology: National Inpatient Sample data (1,388,055 admissions) and a single-center cohort (211 patients) were analyzed using ICD-10-based identification and multivariate logistic regression adjusted for age. • Results: Males were hospitalized more frequently and had longer stays. Common causes included infections, fractures, pneumonia, and DBS procedures, with sex-specific differences in admission profiles across conditions. • Conclusions: Hospitalization patterns in Parkinson's disease differ by sex, with males experiencing higher utilization and longer admissions, supporting the need for tailored preventive strategies.
19 April 2026	Burden of Parkinson's Disease in South Asia, 1990–2023: Findings from the Global Burden of Disease Study 2023	Bhumi D. Patel	• Introduction: This epidemiologic study evaluated long-term trends in Parkinson's disease burden across South Asia, addressing growing concerns linked to population aging and limited regional data. • Methodology: GBD 2023 data for Bangladesh, Bhutan, India, Nepal, and Pakistan (1990–2023) were analyzed using age-standardized prevalence, incidence, mortality, DALYs, and YLDs, with trends assessed via AAPC. • Results: PD burden increased substantially across all metrics, including rising prevalence, incidence, mortality, DALYs, and YLDs. Males consistently exhibited higher rates across indicators, with steady upward trends over time. • Conclusions: Parkinson's disease burden in South Asia is rising significantly, necessitating strengthened neurological care systems and early detection strategies.

Notable Presentations At AAN 2026

Movement Disorders and Neuromodulation (7/10)



Date	Title	Author	Summary
19 April 2026	Switching to CREXONT® Improves "Good On" Time and Reduces Motor Fluctuations in Parkinson's Disease: Interim Results from the Real-world ELEVATE-PD Phase Four Study	Robert A. Hauser	• Introduction: This interim real-world analysis evaluated CREXONT, an extended-release carbidopa-levodopa formulation, for improving motor fluctuations in Parkinson's disease by optimizing "Good On" time and reducing "Off" time. • Methodology: ELEVATE-PD is an ongoing open-label phase 4 study in patients transitioning from other levodopa regimens, with outcomes assessed via PD diaries and MDS-UPDRS through dose optimization and early follow-up. • Results: In 55 patients, switching to CREXONT increased daily "Good On" time by ~1.8–3.1 hours across prior therapies and reduced "Off" time by ~2.3–2.8 hours, with concurrent motor score improvement and mild-to-moderate adverse events. • Conclusions: CREXONT improved motor control and reduced fluctuations in real-world use.
19 April 2026	Foslevodopa/Foscarbidopa Improves Pain in People with Advanced Parkinson's Disease Who Have Uncontrolled Motor Fluctuations: Interim Results From the Real-world ROSSINI Study	Jason L. Aldred	• Introduction: This real-world study evaluated whether continuous subcutaneous levodopa/carbidopa infusion improves Parkinson's disease-related pain, an outcome not fully assessed in prior motor-focused trials. • Methodology: ROSSINI is a multicountry observational study; this interim Cohort A analysis assessed 6-month changes in King's Parkinson's Disease Pain Scale using mixed-effects models in advanced PD patients initiating LDp/CDp infusion. • Results: Significant and rapid reductions in total pain scores were observed from week 2 through month 6, with improvements across chronic, fluctuation-related, nocturnal pain, and multiple pain subdomains, exceeding clinically meaningful thresholds. • Conclusions: Continuous LDp/CDp infusion provides sustained, clinically meaningful improvement in Parkinson's disease-related pain alongside motor benefit.



Notable Presentations At AAN 2026

Movement Disorders and Neuromodulation (8/10)



Date	Title	Author	Summary
19 April 2026	Low Risk of Motor Complications in Early Parkinson's Disease Patients Treated with Opicapone in the EPSILON Study: Effect of Levodopa Dose	Helena Brigas	• Introduction: This post-hoc analysis examined whether levodopa dose and timing of opicapone initiation influence long-term motor complications in Parkinson's disease, where higher levodopa exposure is known to increase dyskinesia and wearing-off risk. • Methodology: EPSILON was a randomized, placebo-controlled study with 1-year open-label extension; this exploratory analysis compared OPC-first versus delayed initiation groups, stratified by levodopa dose (<400 vs ≥400 mg/day), using Kaplan–Meier analyses for motor complications. • Results: Higher levodopa doses trended toward increased motor complications, particularly with delayed opicapone initiation. Early opicapone users had higher MC-free proportions, while OFF time differences were minimal between groups. • Conclusions: Early opicapone initiation may support longer-term motor stability, especially in patients on higher levodopa doses.
19 April 2026	Foslevodopa/Foscarbidopa Reduces Troublesome Dyskinesia in People with Advanced Parkinson's Disease in Two Phase Three Clinical Trials	Robert A. Hauser	• Introduction: This analysis evaluated whether continuous foslevodopa/foscarbidopa infusion reduces troublesome dyskinesia in advanced Parkinson's disease, a key driver of disability despite dopaminergic therapy. • Methodology: Post hoc pooled data from a 12-week randomized controlled trial and a 52-week open-label study were analyzed using PD diary recordings of "On"/"Off" states and dyskinesia burden in patients with significant baseline "Off" time. • Results: At baseline, over one-third had troublesome dyskinesia. By final assessment, ~36–61% of affected participants experienced complete resolution of troublesome dyskinesia, including those with higher baseline severity. • Conclusions: Continuous LDp/CDp infusion was associated with substantial reductions in troublesome dyskinesia in advanced Parkinson's disease.



Notable Presentations At AAN 2026

Movement Disorders and Neuromodulation (9/10)



Date	Title	Author	Summary
19 April 2026	Effect of Opicapone on Sleep-related Complaints and Non-motor Burden in Parkinson's Patients: A Post-hoc Analysis of the OASIS Trial	Ghazal Banisadr	• Introduction: This study evaluated whether opicapone, by optimizing levodopa response, can improve sleep disturbances and non-motor symptoms in Parkinson's disease patients with motor fluctuations. • Methodology: A 6-week open-label OASIS trial assessed 16 patients receiving opicapone 50 mg add-on therapy. Changes in PD Sleep Scale-2 items and MDS-NMS domains were analyzed post hoc. • Results: Sleep quality improved across multiple domains, including reduced sleep latency, fragmentation, and non-restorative sleep, alongside better nocturnal motor symptoms. Overall non-motor symptom burden significantly decreased, particularly in sleep/wake, depression, anxiety, and pain domains. • Conclusions: Opicapone improved both sleep-related and broader non-motor symptoms in PD, supporting its role in managing wearing-off-related multidimensional symptom burden.
19 April 2026	Pimavanserin for Parkinson's Disease Psychosis: A Meta-analysis of Placebo-controlled Randomized Trials	Matthew Petruncio	• Introduction: This meta-analysis evaluated the efficacy and safety of pimavanserin, a 5-HT_{2A} inverse agonist, for Parkinson's disease psychosis, a highly prevalent and disabling non-motor complication. • Methodology: Four placebo-controlled randomized trials were pooled using random-effects models, assessing psychosis severity (SAPS), motor outcomes (UPDRS II/III), and adverse events with standardized effect measures. • Results: Pimavanserin significantly reduced psychosis severity without worsening motor function. Safety outcomes were generally comparable to placebo, with a possible reduction in orthostatic hypotension. Efficacy heterogeneity was high across studies. • Conclusions: Pimavanserin is effective for psychosis in Parkinson's disease without motor deterioration, though variability across trials warrants cautious interpretation.

Notable Presentations At AAN 2026

Movement Disorders and Neuromodulation (10/10)



Date	Title	Author	Summary
20 April 2026	Corpus Callosum Structural Alterations in Essential Tremor With and Without Resting Tremor: A Multimodal MRI Study	Salvatore Mazzeo	• Introduction: This multimodal MRI study examined whether corpus callosum microstructural integrity differs between essential tremor (ET) and ET with resting tremor, a debated clinical subtype distinction • Methodology: 128 participants (ET, ETrt, controls) underwent MRI-based assessment of corpus callosum subregions using thickness, diffusion metrics, and fractional anisotropy, combined with both conventional group comparisons and unsupervised clustering. • Results: Both ET groups showed reduced corpus callosum thickness and increased diffusivity versus controls, with no significant differences between ET subtypes. Clustering grouped ET and ETrt together, distinct from controls. • Conclusions: ET subtypes share similar corpus callosum structural abnormalities, supporting overlapping underlying neurobiological mechanisms.
20 April 2026	Understanding Individual Challenges in Treating and Living with Essential Tremor: Results from a Lived-experience Focus Group	Regina Martuscello	• Introduction: This qualitative study explored lived experiences in essential tremor, focusing on functional impact, treatment satisfaction, care pathways, and awareness of advanced therapies in a disorder often undertreated despite guideline-supported options. • Methodology: Eleven participants engaged in a 2-week asynchronous virtual focus group. Findings were compared with a large ET survey dataset (n=63,611) to assess concordance in treatment patterns and patient perspectives. • Results: Participants reported substantial quality-of-life impairment despite mild-to-moderate tremor. Medication satisfaction was very low, with most care delivered by generalists rather than movement disorder specialists and limited physician-led education. • Conclusions: ET management shows major gaps in treatment satisfaction and specialist access, highlighting the need for improved education and earlier advanced therapy consideration.



Notable Presentations At AAN 2026

Stroke and Cerebrovascular Disorders (1/10)



Date	Title	Author	Summary
19 April 2026	Post-traumatic Brain Injury Territorial Cerebral Infarction Without Large Vessel Occlusion: A Ten-year Descriptive Study	Jahnavi Shriram	• Introduction: Post-TBI territorial infarction is recognized, but mechanisms without LVO remain unclear. • Methodology: This single-center retrospective study reviewed 2015–2024 inpatient TBI cases with complete brain/cerebrovascular imaging; clinician-confirmed infarcts without LVO/vasospasm underwent descriptive chart analysis. • Results: Among 697 cases, 28 infarcts were identified, mainly MCA and PCA territories (32.1% each). BCVI was infrequent (21.4%), while ICH (92.8%), midline shift (89.2%), craniectomy (57.1%), and EVD placement (53.6%) were common. • Conclusions: Data support edema-related vascular compression and raised ICP as the dominant mechanism.
19 April 2026	Cerebral Venous Thrombosis in Adults Aged Over 50 Years: A Retrospective Study From a Latin American Center	Andres Ricaurte	• Introduction: CVT is a rare stroke, typically in young women; data in ≥ 50 years, particularly from Latin America, remain limited. • Methodology: Retrospective single-center review of CVT patients ≥ 50 years; demographic, clinical, and radiographic data extracted, with literature comparison. • Results: Among 50 patients (mean 62.2 years), sex distribution was balanced (54% male). Autoimmune disorders occurred in 16%. Sinus involvement was uncommon in rectus/cavernous (4% each). Compared to global data, older age and balanced sex predominated. • Conclusions: CVT in older adults shows distinct epidemiology, underscoring need for improved recognition and regional multicenter validation.

Notable Presentations At AAN 2026

Stroke and Cerebrovascular Disorders (2/10)



Date	Title	Author	Summary
19 April 2026	Severity of Intracranial Arterial Calcification on Computed Tomography and Risk of Dementia in Patients with Stroke or Transient Ischaemic Attack: A Population-based Study	Ke Li	• Introduction: CT-IAC is common after stroke/TIA, but its independent relationship with later dementia remains insufficiently defined. • Methodology: Nested case-control analysis from OXVASC compared CT-IAC burden, location, visual versus quantitative scoring, and calcification subtypes in 200 dementia cases versus 200 matched controls after minor stroke/TIA. • Results: Dementia independently correlated with severe ICA calcification visually and quantitatively, strongest at very high volumes ($\geq 600 \text{ mm}^3$). Associations persisted after excluding recurrent stroke and significant white matter disease; medial/internal elastic lamina subtype was independently predictive. • Conclusions: CT-IAC, especially severe ICA disease, independently predicts post-stroke/TIA dementia.
19 April 2026	Need for Alternative Patient Education Methods to Bridge the Gap in Secondary Stroke Prevention for Transient Ischemic Attack Patients: A Cross-sectional Study	Chetna Dengri	• Introduction: Post-TIA stroke education using FAST/BE-FAST is standard, but its real-world effectiveness and patient confidence remain uncertain. • Methodology: Survey of patients discharged after TIA (April 2024–2025) assessed reported receipt of education, stroke-sign knowledge, and confidence using screening tools; demographics were chart-reviewed. • Results: Of 66 respondents, 27.3% reported no education; only 4/18 correctly identified three stroke signs. Among educated patients, most felt comfortable, but 16.7% reported limited confidence. • Conclusions: Current post-TIA education leaves substantial gaps in delivery, stroke literacy, and confidence, supporting more engaging digital teaching strategies.

Notable Presentations At AAN 2026

Stroke and Cerebrovascular Disorders (3/10)



Date	Title	Author	Summary
19 April 2026	Phase III Cluster-Randomised Community Study of RiskometerBased Lifestyle Intervention across Five Indian States for Stroke Risk Reduction at 12 Months - PROMOTE India Study	Rajinder K. Dhamija	• Introduction: Stroke prevention in India misses many adults outside traditional high-risk groups; scalable digital prevention evidence remains limited. • Methodology: PROMOTE India is a cluster-randomized community implementation trial across 20 clusters in five states, enrolling 15,000 adults aged 40–75. Health workers will deliver Stroke Riskometer-based risk assessment, lifestyle counselling, and follow-up. • Results: The study will evaluate 12-month changes in systolic blood pressure, Life's Simple 7/Life Essential 8 scores, clinical measures, and behaviours, generating feasibility and scalability evidence. • Conclusions: This digital-first, clinician-led model may offer a scalable public-health template for primary stroke prevention.
19 April 2026	Timing of Initiating Oral Anticoagulant Administrations in Stroke Patient Who Developed Atrial Fibrillation: A Systematic Review and Meta-analysis	Muhnnad A. AlGhamdi	• Introduction: Optimal anticoagulation timing after AF-related ischemic stroke remains uncertain because recurrence prevention must be balanced against hemorrhagic risk. • Methodology: PRISMA-guided systematic review/meta-analysis (17 studies; >32,000 patients) compared early versus delayed OAC initiation after ischemic stroke in adults with non-valvular AF. Random-effects models assessed recurrence, hemorrhage, bleeding, mortality, and functional outcomes. • Results: Early OAC showed no excess major extracranial bleeding or mortality and, in sensitivity analyses, reduced ischemic events and intracranial hemorrhage • Conclusions: Early anticoagulation appears favorable, but predominantly observational evidence limits certainty; randomized confirmation is needed.



Notable Presentations At AAN 2026

Stroke and Cerebrovascular Disorders (4/10)



Date	Title	Author	Summary
19 April 2026	Racial and Socioeconomic Disparities in Moyamoya-associated Ischemic Stroke Outcomes: A National Inpatient Sample Study	Haya A. Al-Kuwari	• Introduction: Moyamoya disease/syndrome (MMD/MMS) are rare causes of ischemic stroke, but their outcome impact across stroke subtypes and demographic groups is poorly defined. • Methodology: Retrospective National Inpatient Sample analysis (2016–2022) identified adult ischemic stroke admissions with MMD/MMS and evaluated mortality, discharge, length of stay, and charges using survey-weighted multivariable models. • Results: Among 578,696 admissions, 1,056 (0.2%) had MMD/MMS. Mortality was lower, but length of stay, hospital charges, and non-home discharge were worse. No SES disparities emerged; race influenced utilization • Conclusions: Moyamoya-associated stroke confers lower mortality but higher care burden.
19 April 2026	Serum Alpha-1 Antitrypsin Levels in Ruptured and Unruptured Cerebral Aneurysms: A Prospective Study	Ali Mahta	• Introduction: Alpha-1 antitrypsin (AAT), a vascular wall-protective antiprotease, may relate to aneurysm instability, but its association with cerebral aneurysm rupture is unclear. • Methodology: Prospective single-center 2024–2025 study measured serum AAT, phenotype, and CRP in ruptured aneurysm, unruptured aneurysm, and stroke control groups, with multivariable adjustment. • Results: Among 84 patients, AAT was significantly higher in ruptured aneurysms versus unruptured and controls; higher AAT independently associated with rupture status. • Conclusions: Elevated serum AAT may mark aneurysm wall instability or rupture-related vascular injury.

Notable Presentations At AAN 2026

Stroke and Cerebrovascular Disorders (5/10)



Date	Title	Author	Summary
19 April 2026	IFN-γ-Inducible Chemokines CXCL9 and CXCL10 in Relation to Stroke Risk: The Northern Manhattan Study	Mohammad Nafeli Shahrestani	• Introduction: Immune activation may contribute to stroke risk, but prospective biomarker signatures beyond standard vascular scores remain underdefined. • Methodology: In 1,175 stroke-free NOMAS participants, 60 serum immune proteins were analyzed using LASSO Cox models with cross-validation; associations with incident stroke were tested after GVRs adjustment. • Results: Over median 14 years, 130 strokes occurred. LASSO prioritized CXCL9/CXCL10, but only CXCL10 independently predicted stroke beyond GVRs and CXCL9. • Conclusions: CXCL10 emerged as a biologically plausible, independent immune predictor of incident stroke and a potential prevention target.
19 April 2026	Middle Meningeal Artery Embolization for Acute and Acute-on-chronic Subdural Hematomas: A Retrospective Cohort Study	Daniel Isaza Pierotti	• Introduction: MMA embolization reduces recurrence in chronic SDH, but evidence in acute and acute-on-chronic SDH remains limited. • Methodology: Retrospective single-center review of consecutive acute/acute-on-chronic SDH patients undergoing MMA embolization between July 2022 and June 2025, with descriptive outcome analysis. • Results: Among 154 procedures in 121 patients, complications were rare (1.3%). At 90 days, hematoma size decreased in all assessed cases, with no symptomatic recurrences, readmissions, or surgical rescue; 19.8% achieved complete radiographic resolution. • Conclusions: MMA embolization appeared safe and potentially effective in selected acute SDH populations.

Notable Presentations At AAN 2026

Stroke and Cerebrovascular Disorders (6/10)



Date	Title	Author	Summary
19 April 2026	Comorbidities that Affect the Mortality Rate Between Ischemic and Hemorrhagic Stroke: A Retrospective Cohort Study	Sharon Elumelu	• Introduction: Post-stroke mortality varies by subtype, and comorbidities may partly explain outcome differences despite similar care standards. • Methodology: Retrospective MIMIC-IV cohort study compared in-hospital mortality in ischemic versus hemorrhagic stroke and assessed hypertension, diabetes, and CHF using ICD-coded comorbidity data. • Results: Among 16,535 patients, hemorrhagic stroke showed markedly higher mortality than ischemic stroke. Comorbidity prevalence differed by stroke type, but only CHF significantly worsened mortality in both groups. • Conclusions: CHF emerged as the key shared mortality-amplifying comorbidity, supporting earlier cardiovascular optimization in acute stroke care.
19 April 2026	Association Between Mental Health Disorders and Anticoagulation Adherence in Patients with Non-valvular Atrial Fibrillation (NVAf) and the Impact on Ischemic Stroke Outcomes in Kaiser Permanente Southern California Patients	Navdeep Sangha	• Introduction: Psychiatric comorbidity may impair anticoagulation adherence in NVAf, potentially increasing ischemic stroke risk, but evidence beyond depression is limited. • Methodology: Retrospective analysis of 18,139 NVAf patients across 15 hospitals (2017–2022) evaluated mood/psychotic disorders, one-year anticoagulation adherence by PDC, and incident ischemic stroke using multinomial regression. • Results: Mental health disorders were present in 18.8%. They were not associated with adequate adherence or incident stroke, but were linked to lower optimal DOAC adherence in minimally adjusted models only. • Conclusions: Integrated-care supports may attenuate psychiatric disparities in anticoagulation outcomes.

Notable Presentations At AAN 2026

Stroke and Cerebrovascular Disorders (7/10)



Date	Title	Author	Summary
20 April 2026	Feasibility and Diagnostic Yield of Left Atrial Appendage Imaging in Comprehensive CT Stroke Protocols	Kaitlyn E. Heintzelman	• Introduction: LAA thrombus detection is clinically important in stroke workup, but routine CT-based LAA assessment may not outperform established echocardiography. • Methodology: Retrospective review of 616 updated CT stroke protocols (2018–2020); cardiothoracic radiologists reassessed scans for LAA thrombus, with imaging and clinical correlations collected. • Results: Among 342 adequately opacified acute stroke scans, CT identified LAA thrombus in 10 patients; corresponding TTEs were negative, while occasional discordance also occurred with negative CT findings. • Conclusions: Routine LAA inclusion in CT stroke protocols appeared technically feasible but offered limited added diagnostic value over echocardiography
20 April 2026	Association Between Cardiac Amyloidosis and Cerebral Amyloid Angiopathy: A Multi-center Retrospective Study	Omar Abdelkader	• Introduction: A putative brain-heart amyloid axis may link cardiac amyloidosis (CA) with cerebral amyloid angiopathy (CAA), but subtype- and stage-specific associations remain unclear. • Methodology: Multicenter retrospective study of 162 CA patients with brain MRI within one year of diagnosis assessed probable CAA by Boston 2.0 criteria and small vessel disease markers. • Results: CAA prevalence was 14.2%, numerically higher in AL than ATTR amyloidosis. CAA was associated with greater overall SVD burden, while advancing ATTR stage correlated with increasing deep white matter hyperintensity burden independent of CAA. • Conclusions: CA is associated with meaningful cerebral microvascular pathology.



Notable Presentations At AAN 2026

Stroke and Cerebrovascular Disorders (8/10)



Date	Title	Author	Summary
20 April 2026	Discovery Proteomics Using Data Independent Acquisition-based Mass Spectrometry Nominate Biomarker Candidates of Atrial Fibrillation in Stroke	Wooyoung Jang	• Introduction: Identifying AFib-related proteomic signatures after IS/TIA could improve etiologic classification and secondary prevention. • Methodology: In a prospective Yale plasma repository, samples collected within 24 hours of stroke onset underwent DIA-MS proteomics, multivariable adjustment, LASSO modeling, and pathway analysis to distinguish AFib versus non-AFib cases. • Results: Among 40 IS/TIA patients, 174 differentially abundant peptides were identified; 63 remained significant after adjustment. An 8-peptide LASSO panel discriminated AFib with cvAUC 0.83, 71% sensitivity, and 85% specificity; coagulation/hemostatic pathways were enriched. • Conclusions: Plasma proteomics shows promise for identifying AFib-associated stroke biomarker signatures.
20 April 2026	Meta-analysis of Randomized Controlled Trials on Intravenous Recombinant Pro-urokinase in Acute Ischemic Stroke: Efficacy and Safety Evaluation	Asmaa Z. Zakria	• Introduction: Recombinant pro-urokinase is being evaluated as a potential alternative thrombolytic to alteplase for acute ischemic stroke within 4.5 hours. • Methodology: PRISMA-based meta-analysis of 5 randomized trials including 3,774 AIS patients compared intravenous rhPro-UK versus alteplase across 90-day efficacy and safety outcomes. • Results: rhPro-UK showed comparable rates of excellent/good functional recovery, symptomatic intracranial hemorrhage, 90-day mortality, and Barthel Index outcomes versus alteplase • Conclusions: rhPro-UK appears non-inferior to alteplase and may represent a viable alternative thrombolytic, pending further large-scale validation.

Notable Presentations At AAN 2026

Stroke and Cerebrovascular Disorders (9/10)



Date	Title	Author	Summary
20 April 2026	Sex Differences in Proteomic Biomarkers of Incident Ischemic Stroke: the ARIC cohort study	Sean M. Kelly	• Introduction: Sex differences in ischemic stroke risk are established, but underlying proteomic determinants remain incompletely defined. • Methodology: ARIC participants without prior stroke underwent proteomic profiling at Visit 2; adjusted Cox models identified proteins associated with incident ischemic stroke, followed by male validation and sex-interaction testing. • Results: Among 11,668 participants, 13 proteins were associated with incident stroke in women. CILP2 predicted lower risk in both sexes, whereas GPNMB and CST6 showed women-specific associations, implicating inflammatory and lysosomal biology. • Conclusions: Findings support both shared and sex-specific proteomic stroke signatures.
20 April 2026	Association Between Coronary Artery Atherosclerosis and Intracranial Artery Atherosclerosis in a Clinicopathological Study	Lívia C. Almeida	• Introduction: Cross-territory links between coronary plaque burden/composition and intracranial atherosclerosis remain insufficiently characterized. • Methodology: In 405 autopsies, coronary plaques were microscopically quantified for obstruction and composition, while intracranial Circle of Willis arteries were macroscopically graded; adjusted clustered logistic models assessed associations. • Results: Greater coronary obstruction, increased intima-media thickness, and plaque instability independently correlated with more severe cerebral arterial obstruction. Lipid-rich, hemorrhagic, thrombotic, and fibrotic plaque features tracked with severe intracranial disease, whereas greater smooth muscle content was protective. • Conclusions: Findings support systemic atherosclerosis linking adverse coronary plaque biology to cerebral arterial obstruction.



Notable Presentations At AAN 2026

Stroke and Cerebrovascular Disorders (10/10)



Date	Title	Author	Summary
20 April 2026	Disparities in Stroke Care for Deaf American Sign Language Users: A Comparative Study	Marcus Milani	• Introduction: Stroke-care disparities in culturally Deaf ASL users are poorly studied despite known healthcare access barriers and elevated vascular risk. • Methodology: Matched retrospective comparison of Deaf ASL users (n=21) versus English-speaking (n=210) and Hmong-speaking patients (n=21) with AIS/TIA from 2015–2025 assessed workflow and clinical outcomes. • Results: Deaf ASL users had higher baseline comorbidity burden and significantly longer door-to-brain imaging times, without differences in stroke subtype, NIHSS, arrival timing, or stroke-code activation. • Conclusions: Findings suggest meaningful diagnostic workflow inequities in Deaf stroke care.
20 April 2026	Cerebral Embolic Protection Devices in Transcatheter Aortic Valve Implantation: A Systematic Review and Meta-analysis of Randomized Controlled Trials	Rowaid Ahmad	• Introduction: Stroke remains a key complication after TAVI, and cerebral embolic protection devices (CEPDs) have been proposed to reduce periprocedural embolic injury. • Methodology: Meta-analysis of 8 randomized trials (11,632 patients) comparing CEPDs versus no CEPDs during TAVI, using random-effects pooled risk ratios. • Results: CEPDs did not significantly reduce all strokes, disabling strokes, mortality, disabling bleeding, or major vascular complications, although stroke outcomes numerically favored CEPDs. • Conclusions: Current randomized evidence does not demonstrate a significant clinical benefit for routine CEPD use during TAVI.



Notable Presentations At AAN 2026

Multiple Sclerosis and Neuroimmunology (1/10)



Date	Title	Author	Summary
19 April 2026	Impact of Subcutaneous Efgartigimod PH20 on Treatment-naïve Participants With Chronic Inflammatory Demyelinating Polyradiculoneuropathy (CIDP) in the ADHERE Trial: Post Hoc Analyses	Hans D. Katzberg	• Introduction: Treatment-naïve early CIDP is underrepresented in trials; whether FcRn blockade is effective in this subgroup is clinically important. • Methodology: Subgroup analysis from ADHERE evaluated weekly SC efgartigimod PH20 in 24 CIDP treatment-naïve participants diagnosed <1 year, assessing confirmed clinical improvement and disability/strength changes. • Results: Confirmed improvement occurred in 87.5%, with median response by 39.5 days. Mean changes exceeded clinically important thresholds for aINCAT, I-RODS, and dominant-hand grip strength • Conclusions: SC efgartigimod showed rapid, robust efficacy in early untreated CIDP, supporting FcRn inhibition in this understudied subgroup.
19 April 2026	Riliprubart Phase Three MOBILIZE and VITALIZE Trials for CIDP are Actively Enrolling Globally	Richard A. Lewis	• Introduction: Many CIDP patients remain refractory or incompletely controlled on standard therapies, supporting evaluation of complement C1s inhibition with riliprubart. • Methodology: Two Phase 3 trials were outlined: MOBILIZE, placebo-controlled in refractory non-IVIg patients, and VITALIZE, active-comparator IVIg-controlled in partially responsive IVIg-treated patients; both include 24-week blinded and 24-week open-label periods. • Results: Both global studies launched in 2024 and are actively enrolling across 28 countries. • Conclusions: These trials address major CIDP unmet needs through refractory and residual-disability populations, with VITALIZE adding rigorous active-comparator evaluation.

Notable Presentations At AAN 2026

Multiple Sclerosis and Neuroimmunology (2/10)



Date	Title	Author	Summary
19 April 2026	Empasiprubarb Versus Placebo in Chronic Inflammatory Demyelinating Polyradiculoneuropathy : EMNERGIZE Phase Three Study Design	Thomas Brannagan III	• Introduction: Complement-mediated demyelination is central in CIDP, supporting evaluation of empasiprubarb, a C2 inhibitor targeting classical/lectin pathways. • Methodology: Phase 3 randomized, double-blind trial (~160 patients) assigns empasiprubarb IV or placebo (2:1) over 24 weeks, followed by rollover, long-term open-label extension, and safety follow-up. • Results: Primary endpoint is ≥ 1-point improvement in aINCAT at Week 24; secondary endpoints include disability, strength, mobility, and functional measures. • Conclusions: EMNERGIZE will define the efficacy and safety of complement C2 inhibition in CIDP.
19 April 2026	Empasiprubarb vs Immunoglobulin in Chronic Inflammatory Demyelinating Polyradiculoneuropathy : EMVIGORATE Phase Three Study Design	Simon Rinaldi	• Introduction: CIDP remains dependent on IVIg in many patients, while complement C2 inhibition with empasiprubarb offers a mechanistically distinct approach. • Methodology: EMVIGORATE is a Phase 3 randomized, double-blind, double-dummy trial in ~218 adults on stable maintenance IVIg, comparing empasiprubarb IV versus continued IVIg over 24 weeks, followed by open-label empasiprubarb. • Results: Primary outcome is ≥ 1-point aINCAT improvement at Week 24; secondary endpoints assess disability, strength, gait, response timing, and patient-reported change. • Conclusions: The study will determine whether empasiprubarb can match or exceed IVIg efficacy in CIDP.

Notable Presentations At AAN 2026

Multiple Sclerosis and Neuroimmunology (3/10)



Date	Title	Author	Summary
19 April 2026	The Silent Surge: Two Decades of Rising Multiple Sclerosis Burden in the United States (1990–2023) — Insights from the Global Burden of Disease Study	Aishwar Dixit	• Introduction: U.S. multiple sclerosis burden despite therapeutic advances remains insufficiently characterized longitudinally. • Methodology: GBD 2023 data were used to assess age-standardized U.S. MS prevalence, DALYs, and mortality from 1990–2023, with temporal trends quantified by Joinpoint-derived AAPC. • Results: Prevalence rose 61.3% (94.8 to 152.9/100,000), deaths increased to 1.42/100,000, and DALYs climbed to 127,640. Women had nearly threefold higher rates than men, with the greatest prevalence increase in ages 45–64. • Conclusions: MS burden continues to rise, especially among middle-aged women, requiring broader long-term care and disability strategies.
19 April 2026	GLP-1 Receptor Agonist Use Associated With Greater Physical Activity and Improved Patient-reported Outcomes in Multiple Sclerosis: A Single-site Retrospective Cohort Study	Karl Heward	• Introduction: GLP-1 receptor agonists may affect neuroinflammation, energy, and symptom burden in MS, but real-world functional effects are unclear. • Methodology: Retrospective within-person cohort study compared pre-initiation versus ≥6-month post-initiation physical activity and SymptoMScreen PROs in 70 MS patients starting GLP-1 RAs. • Results: Moderate-to-vigorous activity rose significantly (+65.8 min/week). Significant PRO improvements occurred in anxiety, bowel/bladder dysfunction, sensory symptoms, pain, vision, spasticity, and dizziness; walking, fatigue, cognition, hand function, and depression were unchanged. • Conclusions: GLP-1 RA initiation was associated with improved activity and selected symptom domains in MS.

Notable Presentations At AAN 2026

Multiple Sclerosis and Neuroimmunology (4/10)



Date	Title	Author	Summary
19 April 2026	Base Excision Repair Gene Variants Modify Multiple Sclerosis Risk: A Genetic Association Study in Central Europeans	Beata A. Filipek	• Introduction: Oxidative DNA damage and base excision repair (BER) dysfunction may contribute to MS susceptibility, but population-specific evidence remains limited. • Methodology: Case-control genotyping study in 102 Polish MS patients and 118 matched controls evaluated 10 SNPs across 7 BER genes using inheritance, haplotype, and multivariate regression models. • Results: Risk associations were seen for XRCC1, SMUG1, and MUTYH variants, while MBD4, MUTYH, TDG, and OGG1 variants showed protective effects; a rare MUTYH haplotype also reduced risk. • Conclusions: BER genetic variation appears to modulate MS susceptibility bidirectionally in this population.
19 April 2026	A Retrospective Cohort Study to Assess the Clinical and Economic Burden in Treated versus Untreated People With Relapsing-remitting Multiple Sclerosis in the United States	Lita Araujo	• Introduction: Real-world differences between treated and untreated RRMS populations remain insufficiently characterized despite widespread DMT availability. • Methodology: Retrospective US claims analysis (2020–2023) compared demographics, comorbidities, healthcare resource use, costs, and predictors of non-treatment in 8,763 treated versus 5,473 untreated pwRRMS. • Results: Untreated patients were older, had greater comorbidity burden, more fatigue, depression, and sensory symptoms, plus higher hospitalizations, ED visits, physician visits, and acute-care costs. Stroke and fibromyalgia/myositis predicted non-treatment. • Conclusions: DMT-treated RRMS patients showed lower clinical and economic burden, highlighting persistent unmet need among untreated patients.

Notable Presentations At AAN 2026

Multiple Sclerosis and Neuroimmunology (5/10)



Date	Title	Author	Summary
19 April 2026	Clinical and Economic Impact and Treatment Patterns in People With Secondary Progressive Multiple Sclerosis: A Retrospective Cohort Study in the United States	Lita Araujo	• Introduction: SPMS causes progressive disability, yet real-world treatment patterns and burden data remain limited. • Methodology: Retrospective US claims study (2018–2023) descriptively evaluated demographics, comorbidities, disability, healthcare utilization, costs, and DMT use in 4,587 adults with SPMS over two years. • Results: Patients showed substantial burden: high infection rates, gait impairment, fatigue, depression, disability, frequent hospitalization/ED use, extensive therapy/device dependence, and mean all-cause costs of \$168,895. At baseline, 64.1% received DMTs; ocrelizumab was most common. • Conclusions: SPMS carries major clinical and economic burden, highlighting need for more effective therapies.
19 April 2026	Safety and Efficacy of Riliprubart, an Activated C1s-complement Inhibitor in CIDP: 76-week Phase Two Trial Results	Richard A. Lewis	• Introduction: Riliprubart, a subcutaneous C1s inhibitor, has shown encouraging earlier efficacy in CIDP, warranting longer-term Week-76 evaluation. • Methodology: Ongoing open-label Phase 2 study enrolled standard-of-care-treated, refractory, and naïve CIDP patients across a 24-week core phase and 52-week extension, assessing relapse, response durability, functional measures, complement activity, and neurofilament light. • Results: Clinical benefit was sustained through Week 76 across groups, with high relapse-free/sustained-response rates and continued complement suppression; neurofilament light declined 35%. • Conclusions: Data support durable efficacy and biological activity of riliprubart across diverse CIDP populations.

Notable Presentations At AAN 2026

Multiple Sclerosis and Neuroimmunology (6/10)



Date	Title	Author	Summary
19 April 2026	<u>Gene Expression Signatures Associated with Prior Rituximab Treatment in Patients with Anti-aquaporin-4 Antibody-positive (AQP4-Ab+) Neuromyelitis Optica Spectrum Disorder (NMOSD) in the CHAMPION-NMOSD Trial</u>	Sean J. Pittock	• Introduction: AQP4-IgG+ NMOSD shows marked complement-mediated immune dysregulation; transcriptomic effects of ravulizumab remain incompletely defined. • Methodology: RNA-seq of whole blood from 32 CHAMPION-NMOSD patients at baseline, Week 26, and Week 50 was compared with 10 matched healthy controls, with subgroup analysis by prior rituximab exposure. • Results: Patients showed distinct inflammatory/complement signatures versus controls. Prior rituximab identified a more dysregulated subgroup with lower B-cell but higher cytotoxic T-cell, macrophage, and neutrophil-associated expression. These abnormalities persisted through Week 50. • Conclusions: Ravulizumab did not normalize underlying transcriptomic immune dysregulation
19 April 2026	<u>Real-world Clinical Outcomes with Eculizumab and Ravulizumab in Anti-aquaporin-4 Antibody-positive (AQP4-Ab+) Neuromyelitis Optica Spectrum Disorder (NMOSD): Results from the Global NMO SPOTLIGHT Registry</u>	Ahmed Z. Obeidat	• Introduction: Complement C5 inhibition is established in AQP4-IgG+ NMOSD, but real-world effectiveness and safety data remain important. • Methodology: NMO SPOTLIGHT registry analysis included 56 adults treated with eculizumab or ravulizumab, assessing relapse activity, vaccination status, infections, and outcomes after rituximab switch. • Results: Pre-treatment ARR was 0.50, falling to 0.02 on ALXN-C5 inhibitors. Only 3 patients relapsed on therapy; none of 15 rituximab switchers relapsed. Meningococcal vaccination uptake was high, with no meningococcal infections. • Conclusions: Real-world data support robust relapse prevention and favorable safety with Alexion C5 inhibitors.



Notable Presentations At AAN 2026

Multiple Sclerosis and Neuroimmunology (7/10)



Date	Title	Author	Summary
19 April 2026	Preservation of Ambulation and Hand Function at Healthy-control Levels With First-line Treatment With Ocrelizumab: Six-year Findings From the ENSEMBLE Trial	Robert A. Bermel	• Introduction: Preserving walking and hand function is a major early RRMS treatment goal, particularly with high-efficacy first-line therapy. • Methodology: ENSEMBLE-LIBERTO, a 6-year open-label Phase IIIb study, evaluated treatment-naïve early RRMS patients receiving ocrelizumab, using sustained T25FW and 9HPT worsening and normalization to healthy-control thresholds. • Results: Among 616 patients, 82.2% avoided ambulation worsening and 93.5% avoided hand-function worsening. Most with normal baseline function maintained it, while ~46% with walking impairment and 55.2% with hand dysfunction improved to healthy-control ranges. • Conclusions: Early first-line ocrelizumab durably preserved and partly restored key motor functions.
19 April 2026	Neuroprotective Potential of Glucagon-Like Peptide-1 Receptor Agonists in Multiple Sclerosis: A Retrospective Cohort Study Using TriNetX	Aayma Irfan	• Introduction: GLP-1 receptor agonists may exert immunometabolic and neuroprotective effects relevant to MS, but real-world outcome data are limited. • Methodology: Retrospective TriNetX cohort compared MS patients with versus without GLP-1 RA exposure using ICD-10/pharmacy coding and 1:1 age/sex propensity matching, assessing relapse and neurological outcomes. • Results: Despite greater metabolic burden, GLP-1 RA exposure was associated with lower rates of steroid-treated relapses, optic neuritis, demyelinating events, gait impairment, fatigue, and depression. • Conclusions: GLP-1 RA exposure was associated with lower inflammatory and functional MS burden.

Notable Presentations At AAN 2026

Multiple Sclerosis and Neuroimmunology (8/10)



Date	Title	Author	Summary
19 April 2026	Comparative Effects of Disease-modifying Therapies on Cognition, Retinal and Clinical Outcomes in African American and Non-African American Patients with Multiple Sclerosis: A 24-month Prospective Study	Brenda V. Ropero	• Introduction: African American patients with relapsing MS often accrue disability faster but remain underrepresented in longitudinal DMT outcome studies. • Methodology: This 24-month prospective observational study compared African American and non-African American relapsing MS patients on DMTs using cognition, OCT retinal metrics, fatigue, and EDSS, analyzed with adjusted mixed-effects models. • Results: Among 48 patients, no significant racial differences emerged in longitudinal cognition, retinal thickness, or fatigue. African American patients showed greater within-group NeuroTrax improvement, but EDSS remained persistently higher. • Conclusions: DMTs may support comparable multidomain stability, with possible cognitive benefit in African American patients.
19 April 2026	A Real-world Study of the Effectiveness and Safety of Ravulizumab in AQP4-Ab+ NMOSD Patients with Suboptimal Response to Satralizumab in Japan - Interim Analysis	Sami Fam	• Introduction: Evidence on switching biologics in AQP4-IgG+ NMOSD, particularly from satralizumab to ravulizumab, remains limited. • Methodology: Interim prospective analysis evaluated 11 adults switched after insufficient response to satralizumab, assessing 12-month relapse control, disability, steroid/immunosuppressant use, safety, and B-cell biomarkers. • Results: Over ~10.9 months, 10/11 remained relapse-free; one relapsed early and discontinued. Steroid and other immunosuppressant doses decreased, two patients improved on EDSS, no serious adverse events occurred, and B-cell subsets shifted toward reduced DNB and increased unswitched memory B cells. • Conclusions: Switching to ravulizumab showed encouraging stabilization with immunologic remodeling.

Notable Presentations At AAN 2026

Multiple Sclerosis and Neuroimmunology (9/10)



Date	Title	Author	Summary
20 April 2026	Real-world Digital Biomarkers Associated With Their Clinical Counterparts in the MS-DETECT Study	Patrick Vermersch	• Introduction: Conventional MS scales may miss subtle progression; MSCopilot® aims to capture multidomain disability digitally in clinic and at home. • Methodology: Interim MS-DETECT baseline analysis compared in-clinic and remote MSCopilot® cognitive, dexterity, vision, and walking measures with corresponding MSFC-4 components using intraclass and Pearson correlations. • Results: In 244 PwMS, digital measures showed good-to-excellent reliability (ICC 0.64–0.77) and moderate-to-strong correlations with MSFC-4 items; composite correlations were identical in clinic and home ($r=0.71$). • Conclusions: MSCopilot® demonstrates robust reliability and clinical validity for remote MS monitoring.
20 April 2026	Observational Study of Inebilizumab as a Salvage Therapy for Acute Optic Neuritis in Neuromyelitis Optica Spectrum Disorder (NMOSD-ON)	Hui Yang	• Introduction: Acute NMOSD-related optic neuritis often causes severe visual loss, and steroid-refractory attacks lack well-established salvage options. • Methodology: In this single-center retrospective case-control study, 8 acute AQP4+ NMOSD-ON patients were evaluated; 4 received early inebilizumab after failed corticosteroids and 4 served as delayed-treatment controls. • Results: Early inebilizumab showed greater improvement in visual acuity and visual field, with less retinal structural thinning. Safety was acceptable; transient weakness/fatigue and one shingles case occurred, without relapses. • Conclusions: Inebilizumab appears promising as salvage therapy for steroid-refractory acute NMOSD-ON.

Notable Presentations At AAN 2026

Multiple Sclerosis and Neuroimmunology (10/10)



Date	Title	Author	Summary
20 April 2026	MRI Abnormalities in Neuromyelitis Optica Spectrum Disorder, a Study of a South Jersey Population	Anjali Patel	• Introduction: MRI is central to NMOSD diagnosis because lesions often involve optic nerves, spinal cord, and aquaporin-4-rich brain regions. • Methodology: Retrospective single-center cohort (2000–2024) of 43 NMOSD patients evaluated demographics, CSF, presentation, and detailed MRI characteristics. • Results: Most patients were female, 75% had abnormal brain MRI, and 64.7% had spinal cord lesions; 49% showed LETM. Optic neuritis occurred in 33.3%, including bilateral, long-segment, and chiasmal involvement. Brainstem, area postrema, and periaqueductal lesions were also observed. • Conclusions: MRI findings were highly consistent with classic NMOSD patterns and reinforced its diagnostic value.

Notable Presentations At AAN 2026

Epilepsy, Seizures and Sleep Disorders (1/10)



Date	Title	Author	Summary
19 April 2026	Optimizing Ketogenic Dietary Therapy for Children with Drug-resistant Epilepsy in a Low-income Setting: A Pilot Study on Feasibility and Clinical Outcomes	Paloma Hurtado Cuan	• Introduction: Ketogenic diet therapy is effective in drug-resistant epilepsy, but real-world implementation data from low-resource LMIC settings remain scarce. • Methodology: Retrospective review of 21 pediatric DRE patients starting ketogenic diet therapy in Mexico's first Ketogenic Diet Clinic (2022–2024), assessing seizure outcomes, antiseizure medication use, and follow-up response. • Results: Median time to initiation was 16 months and diet duration 72 weeks. Among patients attending ≥ 3 visits, 60% achieved $>90\%$ seizure reduction; 60% reduced ASM doses and 30% reduced ASM number. • Conclusions: Structured ketogenic diet implementation was feasible and clinically beneficial in this resource-limited setting.
19 April 2026	Incidence and Prognostic Factors for Febrile Seizure Recurrence in Children: A Prospective Cohort Study in Vietnam	Anh H. Bui	• Introduction: Febrile seizure recurrence is common, but practical risk-stratification tools from resource-limited settings are limited. • Methodology: In this prospective Vietnamese cohort, 631 children with first febrile seizure were followed for recurrence; multivariable Cox regression identified predictors and generated a simple count-based model. • Results: Recurrence occurred in 27.6% over median 1.9 years. Independent predictors were age <21 months, family history, and multiple seizures during one febrile illness. Two-year recurrence rose from 13.8% with no predictors to 63.1% with all three. • Conclusions: The 3-factor model offers pragmatic recurrence-risk stratification for counseling and follow-up.



Notable Presentations At AAN 2026

Epilepsy, Seizures and Sleep Disorders (2/10)



Date	Title	Author	Summary
19 April 2026	Impact of AXS-12 on Symptom Severity and Functional Impairment in Narcolepsy: Results From the Phase Three SYMPHONY Trial	Michael J. Thorpy	• Introduction: NT1 causes substantial symptom burden, impaired functioning, and frequent mood disturbance, warranting broader outcome assessment beyond cataplexy reduction. • Methodology: In the Phase 3 randomized, double-blind SYMPHONY trial, 90 NT1 patients received AXS-12 or placebo for 5 weeks; secondary endpoints assessed severity (CGI-S), daily functioning (FOSQ-10), and mood (EQ-5D-5L anxiety/depression). • Results: AXS-12 significantly improved CGI-S and FOSQ-10 versus placebo, with numerically greater anxiety/depression improvement. • Conclusions: AXS-12 showed multidomain benefit, improving global severity and functional impairment in NT1.
19 April 2026	The First Light: Efficacy and Safety of a Multi-dose Study of Oveporexton (TAK-861), an Oral Orexin Receptor Two Agonist for the Treatment of Narcolepsy Type One	Giuseppe Plazzi	• Introduction: NT1 results from orexin neuron loss, causing severe sleepiness and cataplexy; OX2R agonism may directly address disease biology. • Methodology: In this Phase 3 double-blind trial, 168 NT1 patients were randomized to twice-daily oveporexton 1 mg, 2 mg, or placebo for 12 weeks. • Results: Both doses significantly improved MWT sleep latency, ESS score, and weekly cataplexy versus placebo. TEAEs were more frequent with oveporexton, mainly pollakiuria and insomnia, without treatment-related serious events. • Conclusions: Oveporexton showed robust efficacy with acceptable tolerability in NT1.



Notable Presentations At AAN 2026

Epilepsy, Seizures and Sleep Disorders (3/10)



Date	Title	Author	Summary
19 April 2026	First Randomized Controlled Trial of Responsive Thalamic Stimulation for Treatment of Idiopathic Generalized Epilepsy with Generalized Tonic Clonic Seizures: The RNS System NAUTILUS Trial 12- and 18-month Data	Martha Morrell	• Introduction: Drug-resistant idiopathic generalized epilepsy lacks effective device-based options; bilateral centromedian responsive neurostimulation was evaluated in the first multicenter RCT in this population. • Methodology: Eighty-seven patients with drug-resistant IGE and GTCs received bilateral CM RNS implantation and were randomized to active or sham stimulation; primary endpoints were device safety and time to second GTC. • Results: Safety endpoint was met, but primary efficacy endpoint was not. Still, active stimulation produced greater 1-year GTC reduction than sham and significant sustained reductions in seizure burden through 18 months. • Conclusions: CM responsive stimulation appeared safe and clinically beneficial despite missed primary efficacy.
19 April 2026	Semaglutide Reduces the Risk of Adult-onset Epilepsy in Type 2 Diabetes: A Target Trial Emulation and Mediation Analysis	Hyunyoung Koh	• Introduction: T2DM is linked to adult-onset epilepsy/seizures; semaglutide may confer neuroprotection beyond glycemic control. • Methodology: Retrospective target-trial emulation using NIH All of Us compared new semaglutide users versus SGLT2 inhibitors and other glucose-lowering drugs, applying IPTW, Cox models, TMLE, and mediation analyses. • Results: Semaglutide was associated with significantly lower incident epilepsy/seizure risk versus both comparators. TMLE confirmed absolute risk reduction; mediation by HbA1c or BMI was minimal, supporting non-glycemic effects. • Conclusions: Semaglutide may reduce adult-onset epilepsy/seizure risk through mechanisms beyond weight or glucose lowering.





Notable Presentations At AAN 2026

Epilepsy, Seizures and Sleep Disorders (4/10)

Date	Title	Author	Summary
19 April 2026	Tuberous Sclerosis Complex (TSC)-Associated Neuropsychiatric Disorders (TAND) Outcomes Following Adjunctive Cannabidiol (CBD) Treatment: 6-Month Intermediate Analysis of the EpiCom Trial	Elizabeth Thiele	• Introduction: TAND drives major morbidity in TSC, but effective neuropsychiatric treatments remain limited; cannabidiol may offer adjunctive benefit. • Methodology: Prespecified 6-month EpiCom Phase 3b/4 analysis evaluated adjunctive CBD plus standard care in TSC patients with moderate/severe behavioral challenges using MPB, TAND-SQ, ABC, and global severity scales. • Results: Among 62 evaluable participants, CBD was associated with reduced most-problematic behavior, improved eat/sleep and overactivity domains, lower irritability/hyperactivity, and fewer severe caregiver/clinician-rated behavioral problems. • Conclusions: Adjunctive CBD showed early multidomain TAND benefit with a safety profile consistent with prior studies.
19 April 2026	Altered Hippocampal Gamma Oscillations as a Neural Biomarker for Cognitive Impairment in MTLE: Insights from Retrospective SEEG Case-series Study	Margil Ranpariya	• Introduction: Hippocampal gamma oscillations support memory, but their utility as cognitive biomarkers in MTLE remains uncertain. • Methodology: Retrospective SEEG analysis of 34 MTLE patients with bilateral hippocampal coverage quantified gamma activity and related profiles to standardized verbal and visuospatial memory testing. • Results: Preserved bilateral gamma aligned with average-to-above-average memory. Bilateral reduction or absence tracked progressively worse cognition, while unilateral loss predicted material-specific deficits: left with verbal, right with visuospatial impairment. • Conclusions: Hippocampal gamma showed a dose-dependent, lateralized association with memory dysfunction, supporting biomarker potential in presurgical MTLE evaluation.



Notable Presentations At AAN 2026

Epilepsy, Seizures and Sleep Disorders (5/10)



Date	Title	Author	Summary
19 April 2026	Safety, Efficacy and Pharmacokinetics of HS-10506 in the Insomnia Patients: A Randomized, Double-Blind, Placebo-Controlled, Phase 1b/2 Study	YuPing Wang	• Introduction: Orexin-2 antagonism is a promising insomnia strategy; HS-10506 showed prior early tolerability and sleep-promoting potential. • Methodology: In this randomized placebo-controlled phase 1b/2 trial, adults with insomnia received ascending HS-10506 doses, then nightly 20/40/60 mg for 28 days; primary endpoint was polysomnographic latency to persistent sleep at Days 13/14. • Results: HS-10506 was well tolerated and significantly reduced sleep latency dose-dependently, while also improving objective and subjective sleep measures; PK showed rapid absorption and no meaningful accumulation. • Conclusions: HS-10506 demonstrated favorable efficacy, safety, and PK supporting phase 3 development.
19 April 2026	Beyond Clinical Trials: Cenobamate's Effectiveness in Diverse Epilepsy Populations	Shenney Lin	• Introduction: Cenobamate has shown strong trial efficacy in focal epilepsy, but real-world performance in clinically complex populations remains less defined. • Methodology: Retrospective tertiary-center cohort of 120 focal epilepsy patients evaluated demographics, comorbidities, and seizure frequency before versus after ≥ 1 year of cenobamate; Wilcoxon signed-rank testing assessed change. • Results: The cohort was diverse and highly comorbid, with frequent developmental and psychiatric conditions. Among 57 patients treated >1 year, mean seizure frequency fell significantly from 2.5 to 1.7/week. • Conclusions: Cenobamate retained meaningful real-world effectiveness in heterogeneous focal epilepsy populations.



Notable Presentations At AAN 2026

Epilepsy, Seizures and Sleep Disorders (6/10)



Date	Title	Author	Summary
19 April 2026	In Vitro Enteral Feeding Tube Study for Lacosamide Extended-release Capsules	Marie Tan	• Introduction: Lacosamide ER is approved as an oral capsule, but patients with dysphagia may require enteral administration. • Methodology: In vitro testing evaluated 200 mg ER beads dispersed in water and delivered through small-caliber NG and gastrostomy tubes, assessing recovery, sedimentation, redispersibility, stability, and dissolution. • Results: Recovery, dispersibility, sedimentation, and dissolution all met specifications, including testing through 16 Fr NG and 18 Fr gastrostomy tubes. • Conclusions: Lacosamide ER capsules appear suitable for enteral tube delivery without compromising dose recovery or release characteristics.
19 April 2026	Develop and Assess the Efficacy of a Neuro-cognitive and Psychosocial Intervention Module in Patients with Drug-resistant Epilepsy: A Randomized Controlled Trial	Neetu Choudhary IV	• Introduction: Drug-resistant epilepsy causes major cognitive, emotional, and quality-of-life impairment, creating need for structured nonpharmacologic support. • Methodology: This three-phase study developed, validated, pilot-tested, and then evaluated an 8-week neurocognitive/psychosocial intervention in a randomized trial of 60 DRE patients versus standard care. • Results: The intervention significantly improved quality of life, reduced anxiety and stigma, and enhanced attention, memory, and executive functioning. • Conclusions: A combined cognitive-behavioral, psychoeducational, and family-centered module appeared feasible and clinically effective in DRE.



Notable Presentations At AAN 2026

Epilepsy, Seizures and Sleep Disorders (7/10)



Date	Title	Author	Summary
19 April 2026	Changes in Self-Reported Cognitive Complaints, Functional Impairments, Work Productivity, and Symptom Severity in Participants With Narcolepsy After Treatment With Greater Than 9 Gram Dosages of Low-Sodium Oxybate in the DUET Study	Logan D. Schneider	• Introduction: Some narcolepsy patients may remain symptomatic on LXB 9 g/night, prompting evaluation of higher individualized dosing. • Methodology: In the prospective open-label Jazz DUET study, participants optimized from 9 g/night to >9 g/night (up to 12 g) and were assessed for symptom severity, cognition, functioning, and productivity • Results: Higher dosing improved global severity, cognitive complaints, FOSQ-10 scores, presenteeism, overall work impairment, and activity impairment, with no absenteeism benefit. Safety remained consistent with known LXB effects. • Conclusions: Select narcolepsy patients may derive additional functional and cognitive benefit from LXB doses >9 g/night.
19 April 2026	Neural Signatures of Conscious Experience During Sleep: A Serial Awakening Study Using High-density EEG	Atakan Selte	• Introduction: Sleep offers a controlled model to probe neural correlates of consciousness using dream versus no-dream reports. • Methodology: Overnight 185-channel HD-EEG in 115 participants analyzed 698 serial awakenings; pre-awakening power/connectivity features underwent multistep selection and machine-learning classification of conscious versus unconscious states. • Results: Classifiers achieved ROC-AUC 0.82. Conscious experience showed greater frontal delta, whereas unconscious states showed greater posterior delta and frontal/posterior alpha; combined frontal-posterior features performed best. • Conclusions: HD-EEG reliably differentiated conscious from unconscious sleep states, highlighting posterior-dominant delta patterns as key consciousness biomarkers.

Notable Presentations At AAN 2026

Epilepsy, Seizures and Sleep Disorders (8/10)



Date	Title	Author	Summary
19 April 2026	Effect of Vitamin D3 Supplementation on Sleep Quality in Deficient Adults : A Randomized Controlled Trial	Lakshmi Priya Lalitha	• Introduction: Vitamin D deficiency may worsen sleep, but the optimal supplementation schedule for sleep improvement is uncertain. • Methodology: In this single-center double-blind RCT, 87 vitamin D3-deficient adults were randomized to daily 2000 IU or weekly 60,000 IU for 8 weeks; sleep quality was assessed using PSQI. • Results: Daily dosing improved sleep duration, daytime dysfunction, and overall PSQI more than weekly dosing, although weekly dosing performed better for reduced need for sleep medication • Conclusions: Daily vitamin D3 supplementation appeared superior for overall sleep quality in deficient adults.
19 April 2026	Preliminary Prospective Study of Pharmaceutical-grade Cannabidiol for Seizure Frequency and Comorbid Anxiety Symptoms in Pediatric Epilepsy: Associations with Circulating Endocannabinoids and Related Lipid Biomarkers	Sophia Hopkins	• Introduction: Pediatric epilepsy commonly coexists with anxiety, and treatments addressing both burdens are limited despite CBD's established antiseizure role. • Methodology: In this open-label exploratory study, 12 participants aged 2–25 received Epidiolex® for 4–6 weeks; seizure frequency, anxiety scales, side effects, and plasma endocannabinoid/lipid biomarkers were assessed pre/post treatment. • Results: Seventy-three percent improved in both seizures and anxiety; mean anxiety scores fell markedly. 2-AG increased and correlated with anxiety improvement, while prostaglandin reductions tracked with seizure benefit. • Conclusions: CBD showed dual antiseizure and anxiolytic potential with plausible biomarker-linked mechanisms.



Notable Presentations At AAN 2026

Epilepsy, Seizures and Sleep Disorders (9/10)



Date	Title	Author	Summary
20 April 2026	Hormonal Changes in Women with Idiopathic Generalized Epilepsy: A Case-control Study	Sai Sahithi Reddy m. Atla	• Introduction: Endocrine dysfunction may affect seizure biology, treatment response, and reproductive health in women with idiopathic generalized epilepsy (IGE). • Methodology: Retrospective case-control study compared 40 women aged 15–35 years with IGE versus 40 matched controls using follicular-phase hormonal and metabolic profiling. • Results: IGE patients showed higher LH and LH/FSH ratio, lower FSH, estradiol, testosterone, androstenedione, and 17-OH progesterone, with slightly higher BMI and lower insulin resistance. • Conclusions: Findings support hypothalamic-pituitary-gonadal axis dysregulation with associated metabolic alteration in reproductive-age women with IGE.
20 April 2026	Patterns of Antiseizure Medication Use and Therapeutic Load in Adults with Developmental and Epileptic Encephalopathies: A Single-center Study	Fernando Vasquez Lopez	• Introduction: Adult DEEs remain highly drug resistant, and real-world long-term ASM prescribing patterns are poorly characterized. • Methodology: Retrospective cross-sectional study of 82 adults with DEEs assessed ASM regimens, combinations, and therapeutic load, with correlation and logistic regression analyses for clinical predictors. • Results: Patients used a mean 3.3 ASMs; generalized seizures predominated. Valproate appeared in 76.8% of combinations, and common regimens were valproate-based polytherapy. Therapeutic load showed no association with epilepsy duration or etiology. • Conclusions: Adult DEE management remains dominated by stable valproate-based polytherapy despite newer ASM availability.



Notable Presentations At AAN 2026

Epilepsy, Seizures and Sleep Disorders (10/10)



Date	Title	Author	Summary
20 April 2026	Disruptive Sleep in Developmental and Epileptic Encephalopathies: Interim Results of a Caregiver Survey	Andrea L. Wilkinson	• Introduction: Sleep disruption is common in DEEs, but its functional impact on daily living and communication is undercharacterized. • Methodology: An anonymous 63-item caregiver survey, distributed through DEE communities, assessed sleep patterns and their associations with ADLs and communication. • Results: Among 489 caregivers, 27.0% reported daily disruptive sleep and 9.6% described no typical sleep pattern. Sleep disruption was associated with temporary loss of ≥ 1 ADL in 24.5% and communication loss in 21.5%; co-sleeping and seizure-monitoring use were frequent. • Conclusions: Disruptive sleep in DEEs is common and functionally consequential.



Key Industry Sponsored Sessions Information



AAN 2026 Key Industry Sponsored Sessions Information (1/4)

Date	Sponsor	Title
18 April 2026	UCB	Scientific exchange on new clinical and real-world evidence for FINTEPLA (fenfluramine) in Dravet and Lennox-Gastaut syndromes
18 April 2026	BMS, Johnson & Johnson	Unmet Needs in Stroke Prevention for Patients with Atrial Fibrillation and Secondary Stroke: Exploring FXI/FXIa Inhibition
18 April 2026	Kyverna Therapeutics	Miv-cel CD19 CAR T: Reimagining Treatment for Neurologic Autoimmune Diseases
19 April 2026	AbbVie	From Conversation to Care: A case-based discussion on a 24-hour continuous therapy for patients with Advanced Parkinson's
19 April 2026	Alexion	Complement Inhibition in Autoimmune Neurologic Disease: Exploring Practical Treatment Considerations to Inform Management of the Autoimmune Patient Journey and Practical Approaches
19 April 2026	Lundbeck	Innovation in Complex Neurological Disorders (Migraine, Multiple System Atrophy and Developmental and Epileptic Encephalopathy)
19 April 2026	SpringWorks	Clinical Evidence and the Role of Neurologists in Caring for Patients Living With NF1-PN



AAN 2026 Key Industry Sponsored Sessions Information (2/4)

Date	Sponsor	Title
20 April 2026	Amgen	<u>Advancing Care in gMG Through a Novel Treatment Approach</u>
20 April 2026	Eli Lilly	<u>Connecting Minds: A real-world look at how neurology and primary care can collaborate to improve Alzheimer's disease care</u>
20 April 2026	Sanofi	<u>Ahead of the Curve: How Early Detection of Disability May Impact the MS Disease Course - Integrating Patient Perspectives, Clinical Insights, and Scientific Advances</u>
20 April 2026	Pfizer	<u>Migraine Management within a Neurology Setting–A Situation Room Discussion</u>
20 April 2026	Argenx	<u>Pushing boundaries in CIDP: Pioneering innovations for patient care</u>
20 April 2026	Eisai, Inc	<u>Smoldering Alzheimer's Disease: The Ongoing Benefit of Addressing Multiple Pathologies</u>
20 April 2026	Genentech	<u>If MS is one disease continuum, what aren't we seeing from the start? Revealing the clinical, imaging, and biologic phenomena driving disease trajectory in MS.</u>





AAN 2026 Key Industry Sponsored Sessions Information (3/4)

Date	Sponsor	Title
20 April 2026	Octapharma	<u>Industry Therapeutic Update from Octapharma: Treating Autoimmune Diseases with Immunoglobulin Therapy: When Data Supports Practice</u>
20 April 2026	Stoke Therapeutics	<u>Industry Therapeutic Update from Stoke Therapeutics: Beyond Childhood: Why This Rare Disease Matters to All Neurologists</u>
21 April 2026	Alexion	<u>Industry Therapeutic Update From Alexion, AstraZeneca Rare Disease: From Pathophysiology to Practice-Expert Perspectives on C5 Inhibition in Anti-AChR Antibody-Positive gMG</u>
21 April 2026	Argenx	<u>Industry Therapeutic Update from argenx: Myasthenia gravis: Addressing unmet needs through timely treatment decisions</u>
21 April 2026	Eli Lilly	<u>Industry Therapeutic Update from Lilly: Kisunla (donanemab-azbt): Expert Discussions for Clinical Approaches</u>
21 April 2026	Novartis	<u>Switch to KESIMPTA® (ofatumumab): Bridging clinical data and real-world experiences with Gabriel Pardo, MD, FAAN and Zenovia, a real patient</u>
21 April 2026	Eli Lilly	<u>Florbetapir F 18 Live Reader Training by Eli Lilly and Company</u>





AAN 2026 Key Industry Sponsored Sessions Information (4/4)

Date	Sponsor	Title
21 April 2026	Biogen	<u>Bill Nye Presents: The Science of Friedreich ataxia (FA)</u>
21 April 2026	C2N Diagnostics	<u>Diagnostic Precision in Alzheimer's Disease: A Discussion on the Clinical Integration of Blood Biomarker Testing</u>
21 April 2026	Pfizer	<u>Migraine Clinical Conversations: The Latest CGRP Receptor Antagonist Data from Pfizer and Insights from Real Patient Cases</u>
22 April 2026	AstraZeneca	<u>Recognizing hATTR-PN: A Neurologist's Perspective</u>
22 April 2026	Novartis	<u>MS In Females Across Ages: Reproductive Years Through Menopause</u>
22 April 2026	Sanofi	<u>Evolving Perspectives on Disease Management- Navigating Management Challenges, Scientific Progress, and Practical Patient Care</u>







Themes from key AI / ML presentations at AAN 2026 (1/3)

- **AAN 2026 is expected to show that AI/ML in neurology is moving from proof-of-concept toward clinically usable triage, prognostic, and monitoring tools, but real-world validation will remain the main barrier to adoption**
- Check out the key AI / ML themes at AAN 2026 below:
 - **Clinical Triage Maturation:**
 - AI/ML is expected to move fastest in triage settings, led by Clarityv8 for seizure/status epilepticus with 96.0% sensitivity and 99.9% NPV, and stroke virtual-assistant triage with 93.6% referral accuracy
 - **Stroke Prognostication Deepening:**
 - Stroke AI is likely to shift from detection toward outcome forecasting, with ROS-ESUS reaching AUROC 0.854/0.835, posterior-circulation AIS models achieving 89% accuracy, and rural India triage showing AUC 0.88
 - **Alzheimer's Digital Biomarker Expansion:**
 - Alzheimer's AI is poised to emphasize scalable screening, with MyCog reaching AUC 0.890, gait-ensemble models achieving AUC 0.93/0.89 for AD/MCI, and EEG denoising improving classification to AUROC 0.86.



Themes from key AI / ML presentations at AAN 2026 (2/3)

- **Parkinson's Predictive Modeling Strengthening:**

- Parkinson's AI is expected to become more longitudinal and multimodal, with LSTM atrophy forecasting showing 5 regional AUROCs >0.9, [synucleinopathy classification reaching 93.3% accuracy](#), and [wearable gait analytics delivering AUC 0.88](#)

- **Epilepsy Precision Support Rising:**

- Epilepsy AI is likely to concentrate on diagnostic enrichment and monitoring, with adult genetic epilepsy triage reaching AUC 0.79, [hybrid EEG systems exceeding 99% accuracy](#), yet only 15% of studies using prospective-like validation

- **Validation Gaps Remaining Central:**

- The strongest analytical signal is likely to be the validation gap, because many [models will show high internal performance while external confirmation remains limited](#), as seen in TBI, stroke CT, and ICU encephalopathy studies

- **Explainability Becoming Non-optional:**

- Explainability is expected to become a core adoption requirement, with [SHAP](#), [feature reduction](#), [omission-rate auditing](#), and [fairness-aware frameworks](#) increasingly used to [identify drivers](#), expose error modes, and improve clinician trust.



Themes from key AI / ML presentations at AAN 2026 (3/3)

- **Operational AI Entering Practice:**

- AI use is likely to extend beyond diagnosis into workflow, as practice-network data suggest 50–70% time savings, while conversational translation and AI scribes will increasingly raise safety, trust, and oversight questions

- **Rare Disease and Low-resource Use Cases Emerging:**

- AI/ML is expected to show disproportionate value in underserved settings, including rare-disease LLM support, Appraxi® speech rehabilitation with 90% accuracy, and resource-constrained neurological diagnosis pathways

- **Multimodal Inputs Will Lead:**

- The strongest AI/ML studies are expected to combine imaging, EEG, clinical variables, and digital signals, because multimodal models repeatedly outperform single-source approaches across stroke, Parkinson's disease, and cognition

- **Ensemble Models Will Dominate:**

- Random Forest, XGBoost, gradient boosting, and hybrid architectures are likely to remain the most practical performers, repeatedly delivering the best balance of accuracy, sensitivity, and interpretability



Noteworthy AI / ML presentations at AAN 2026

Notable Presentations At AAN 2026

AI / ML (1/20)



Date	Title	Author	Summary
19 April 2026	From Code to Clinic: A Phase-based Framework for AI Research in Healthcare	Suhrud Panchawagh	• Introduction: Clinical AI adoption remains constrained by fragmented development, inconsistent validation, reproducibility gaps, and equity concerns. • Methodology: The study proposes a four-phase, clinical-trial-style framework covering data quality and feature design, internal validation and fairness testing, multicenter external validation, and post-deployment monitoring. • Results: In the spinal metastasis NLP use case, Phases 1–2 included rigorous cleaning, doc2vec representation, neural network optimization, and robust internal validation; later phases define calibration, feedback, and error analysis. • Conclusions: The framework provides a reproducible, ethical pathway for safe, trustworthy clinical AI deployment.
19 April 2026	Predictive Value of DWI and FLAIR MRI Score in Post-arrest Prognostication: A Machine Learning Approach	Neha Madugala	• Introduction: This study examines whether MRI DWI and FLAIR abnormalities improve early prognostication after cardiac arrest in initially comatose patients. • Methodology: In 222 adults scanned 2–7 days post-arrest, blinded reviewers scored 12 brain regions on DWI/FLAIR; logistic regression and three machine-learning models integrated imaging, clinical, and EEG variables. • Results: Brainstem and thalamic abnormalities, especially on DWI, were most strongly linked to mortality. Gradient boosting performed best (sensitivity 0.91, specificity 0.86, AUC 0.82). • Conclusions: MRI adds meaningful prognostic signal and strengthens multimodal mortality prediction.

Notable Presentations At AAN 2026

AI / ML (2/20)



Date	Title	Author	Summary
19 April 2026	Using Explainable AI in the Clinical Validating of MyCog: A Self-administered Cognitive Screener for Primary Care Settings	Callie Jones	• Introduction: This study evaluates MyCog, a self-administered tablet screener designed to detect cognitive impairment efficiently in primary care while improving ML interpretability. • Methodology: In 145 older adults, five ML models were trained on MyCog task data using nested cross-validation, with SHAP-based explainability. • Results: Models showed strong discrimination (AUC 0.817–0.873); the consensus explainable model reached AUC 0.890, with memory accuracy and executive-function efficiency as top predictors. • Conclusions: MyCog combines practical workflow fit with clinically interpretable, accurate cognitive screening.
19 April 2026	Predicting Aphasia Interpersonal Communication Performance from Clinically Available Multimodal Data using Machine Learning	Shreya Parchure	• Introduction: The study addresses a major gap in aphasia care by predicting task-level communication deficits, rather than broad severity, using clinically obtainable data. • Methodology: Random-forest classifiers were trained on 6,200 exchanges from 52 PWA, integrating clinical measures, structural connectivity, and linguistically derived word-difficulty features, with cross-validation and testing on unseen patients/prompts. • Results: Best models achieved AUC 0.89–0.90, outperforming non-linguistic models; performance generalized across new patients, prompts, and stroke-to-Alzheimer’s transfer (AUC 0.85–0.93). • Conclusions: Explainable multimodal ML enabled robust, personalized, clinically relevant prediction of interpersonal communication impairment.

Notable Presentations At AAN 2026

AI / ML (3/20)



Date	Title	Author	Summary
19 April 2026	MRI-Based Machine Learning Classifier and its Association with Motor Progression in Parkinson's Disease Based on Clinical Measures	Anupa Ambili Vijayakumari	• Introduction: This study evaluates whether a structural MRI-based PD progression classifier can predict routine clinical outcomes beyond OFF-medication motor assessments. • Methodology: A support vector machine using gray matter volumetrics plus baseline demographic/clinical variables was applied to 88 de novo PPMI patients, with 48-month longitudinal assessment of function, independence, medication burden, and progression thresholds. • Results: Faster progressors had significantly greater decline in MDS-UPDRS-II, S&E ADL, and LEDD, with higher odds of meaningful MDS-UPDRS-II worsening and Hoehn & Yahr progression. • Conclusions: MRI-based stratification may identify PD patients at risk for clinically relevant deterioration.
19 April 2026	How Specialty Practices Are Actually Using AI Today	Syam Palakurthy	• Introduction: This survey examines practice-level, “bottom-up” AI adoption aimed at reducing administrative burden in specialty care. • Methodology: A structured online survey captured responses from administrators, managers, authorization specialists, and executives across a geographically diverse SamaCare practice network. • Results: Practices reported broad experimentation, from minimal exposure to advanced use. Common applications included payer appeal letters, prior-authorization summarization, and patient education, with estimated 50–70% staff time savings. Trust concerns centered more on payer use of AI than AI itself. • Conclusions: Practice-driven AI appears operationally feasible and may improve efficiency and patient access.

Notable Presentations At AAN 2026

AI / ML (4/20)



Date	Title	Author	Summary
19 April 2026	Applications of Artificial Intelligence in Traumatic Brain Injury Research and Practice: A Systematic Umbrella Review	Rolake Feyisetan	• Introduction: This meta-research review evaluates how AI has been applied to TBI diagnosis and prognosis, where outcome variability and early risk stratification remain major challenges. • Methodology: The authors systematically reviewed English-language systematic reviews/meta-analyses published from 2020 to June 18, 2025 on AI in TBI research and practice. • Results: Across 13 reviews, ML models showed strong prognostic performance (AUC 0.72–0.96), often exceeding 80% accuracy. SVMs, ANNs, and ensemble methods frequently outperformed logistic regression. • Conclusions: AI is promising in TBI, but heterogeneity, ethics, and limited real-world validation constrain translation.
19 April 2026	Artificial Intelligence in Stroke Detection Using CT Imaging in Indian Hospitals: A Systematic Review	Anindita Deb	• Introduction: This review addresses whether AI can improve stroke CT interpretation in India, where delayed diagnosis and limited imaging expertise constrain acute care. • Methodology: A PRISMA-guided systematic review searched PubMed and Scopus through March 2025 for original Indian studies applying AI to ischemic or hemorrhagic stroke detection on CT • Results: Among 705 records, 48 studies were included. Most used CNNs, U-Net variants, or hybrid ensembles, with reported sensitivities of 90–98%, though multicenter validation was limited. • Conclusions: AI shows strong promise, but broader datasets and real-world validation remain essential.

Notable Presentations At AAN 2026

AI / ML (5/20)



Date	Title	Author	Summary
19 April 2026	A Quaternary Machine Learning Classifier for Predicting 30-, 90-, and 360-day Mortality in Stroke Patients Using ICU-derived Clinical Data	Nikita U. Savant	• Introduction: This study addresses a clinically relevant AI gap by predicting when mortality occurs after ischemic stroke, rather than using a simple binary outcome. • Methodology: Using 760 MIMIC-III ICU stroke cases, six supervised models were trained on 63 first-day clinical variables to classify four mortality windows via 10-fold cross-validation. • Results: Random Forest performed best (AUC 0.795), with the strongest balance of sensitivity (0.623), specificity (0.823), and precision (0.623); boosting models were competitive, while MLP underperformed. • Conclusions: Multi-horizon ML risk stratification appears feasible, with Random Forest the most clinically promising.
19 April 2026	Decoding Tremor: A Scoping Review of Machine Learning Approaches to Essential Tremor Differentiation	Kaitlyn E. Heintzelman	• Introduction: This first scoping review evaluates whether AI/ML can help distinguish essential tremor from overlapping tremor phenotypes, a persistent diagnostic challenge in movement disorders. • Methodology: PRISMA-ScR-guided searches of PubMed, Cochrane, and Scopus through April 2025 identified 46 eligible studies from 548 screened. • Results: Across 6,051 patients, models used multimodal inputs and diverse algorithms, with reported accuracies of 60%–100%; however, major heterogeneity limited cross-study comparability • Conclusions: AI/ML is promising for ET classification, but standardized datasets, reporting, and clinically practical pipelines are needed for translation.

Notable Presentations At AAN 2026

AI / ML (6/20)



Date	Title	Author	Summary
19 April 2026	Accuracy of Seizure Burden Monitoring and Detection of Status Epilepticus with the Clarity AI Algorithm	Josef Parvizi	• Introduction: This study evaluates an AI-enhanced point-of-care EEG tool for rapid seizure and status epilepticus triage in neuroemergencies. • Methodology: In 1,340 adult Ceribell EEGs, expert-labeled seizures/SE were compared with Clarityv8 maximum seizure-burden thresholds. • Results: For SE, sensitivity reached 96.0% at both $\geq 90\%$ and $\geq 50\%$ seizure burden, with specificity 94.8% and 93.3%, and NPV 99.9%. For seizure/SE detection, $\geq 10\%$ burden gave 88.2% sensitivity and 86.1% specificity • Conclusions: Clarityv8 showed strong rule-out performance, especially for SE.
19 April 2026	Machine Learning Ensemble Models for Neurological Outcome Prediction Following Cardiac Arrest: A Multi-institutional Analysis	Ika Noviawaty	• Introduction: Early neurological prognostication after cardiac arrest remains difficult, and multimodal AI may improve risk estimation. • Methodology: In 716 patients from two tertiary centers, six models were trained on 18 early clinical and EEG variables collected within 72 hours, using split-sample validation and cross-validation. • Results: Poor outcome occurred in 84.9%. The top ensemble model achieved AUC 0.878, with high specificity (95.6%) but moderate sensitivity (50.0%). Key adverse predictors were older age, EEG suppression, prolonged ROSC, and absent reactivity. • Conclusions: Early EEG-clinical models can support robust short-term prognostication.

Notable Presentations At AAN 2026

AI / ML (7/20)



Date	Title	Author	Summary
19 April 2026	Hybrid AI for EEG-based Seizure Detection: A PRISMA-guided Narrative Review of Spatiotemporal, Multimodal, and Explainable Models	Apurva H. Patel	• Introduction: This review examines hybrid AI for EEG seizure detection, targeting persistent challenges in noisy, heterogeneous, non-stationary signals. • Methodology: A narrative PubMed review (2019–2025) identified 28 studies, grouped into spatiotemporal fusion, graph-based, explainable, and lightweight frameworks. • Results: Hybrid models outperformed single-method approaches; CNN-RNN systems exceeded 99% accuracy, graph networks improved seizure localization, explainable models highlighted salient channels, and lightweight autoencoders achieved >98% accuracy for wearable deployment. • Conclusions: Hybrid AI substantially advances seizure detection, but broader generalizability, embedded efficiency, and standardized interpretability remain critical for clinical adoption.
19 April 2026	Artificial Intelligence and Machine Learning in Epilepsy Care: A Systematic Review of Applications, Methods, and Challenges	Fathi Massoud Marei Abokalawa	• Introduction: This review assesses how AI/ML is transforming epilepsy care, especially in pediatric-relevant diagnostic, predictive, and treatment settings. • Methodology: Studies from 2015–2025 across four databases were systematically reviewed for AI/ML use in diagnosis, seizure prediction/detection, or treatment support. • Results: Among 78 included studies, deep learning showed high diagnostic AUROCs, multimodal seizure systems achieved strong sensitivity with low false alarms, and ML predicted treatment outcomes well; only 15% used prospective-like validation. • Conclusions: AI performance is promising, but real-world validation, personalization, and workflow integration remain the main translational barriers.

Notable Presentations At AAN 2026

AI / ML (8/20)



Date	Title	Author	Summary
19 April 2026	Optimizing the Diagnostic Pathway for Adult Genetic Epilepsy Patients: A Machine Learning Approach	David Lee	• Introduction: Adult genetic epilepsy is often recognized late, delaying treatment optimization and genetic testing decisions. • Methodology: In 505 adults undergoing genetic testing, an XGBoost model used routinely collected clinical, MRI, and EEG variables; SHAP and backward elimination reduced 23 features to 8, with nested cross-validation and holdout testing. • Results: One-third had pathogenic variants. The final model achieved AUC 0.79 on holdout data, with sensitivity 0.82 and specificity 0.72; strongest predictors were seizure-onset age, developmental/intellectual disability, and family history. • Conclusions: Minimal-data ML may efficiently triage adults for genetic testing.
19 April 2026	Improving Communication in Neurology Through a Conversational AI Translation Assistant: A Feasibility Study	Shahnaz Miri	• Introduction: This pilot evaluates conversational AI translation in neurology visits, where language barriers can impair comprehension, efficiency, and patient experience. • Methodology: Four bilingual outpatient encounters used standard video interpretation initially, then a privacy-compliant AI translation tool for clarification, counseling, and education, with qualitative feedback collected. • Results: Patients and physician reported clearer, more natural communication, fewer interruptions, better contextual accuracy, and improved educational depth; all patients chose to remain with AI rather than return to interpreters. • Conclusions: Conversational AI translation shows early promise for communication and workflow support in neurology.

Notable Presentations At AAN 2026

AI / ML (9/20)



Date	Title	Author	Summary
19 April 2026	Machine Learning Tools to Predict Subclinical Small-vessel Brain Lesions Using AHA Life's Essential 8: Evidence from the ELSA-Brasil Longitudinal Study	Marianna Leite	• Introduction: This study tests whether longitudinal cardiovascular health, measured by Life's Essential 8, can predict subclinical CSVD lesions on MRI using explainable ML. • Methodology: In 233 ELSA-Brasil participants followed for 15 years, six ML models predicted EPS, WMH, lacunes, and microhemorrhages from LE8 scores, trajectories, and demographics; SHAP quantified feature effects. • Results: TabPFN performed best for EPS (AUC 0.764), logistic regression for lacunes/microhemorrhages (0.749/0.739), and CatBoost modestly for WMH (0.692). Age, lipids, sleep improvement, and glucose were key drivers. • Conclusions: LE8-based ML shows moderate CSVD prediction potential.
19 April 2026	Posterior Circulation Acute Ischemic Stroke Prognostication Using Artificial Intelligence	Dulari Gupta	• Introduction: This study targets outcome prediction in posterior circulation AIS, where prognostication often depends more on clinician judgment than standardized tools. • Methodology: In 170 patients, ensemble ML models used clinical variables and MRI DWI-derived stroke volume to predict 90-day mRS. • Results: mRS correlated strongly with NIHSS but only weakly with stroke volume. Random Forest achieved the highest accuracy/precision (89%/88%), while LightGBM showed the best precision-recall balance (F1 80%, recall 78%). • Conclusions: AI models may support prognostic counseling in posterior circulation stroke.

Notable Presentations At AAN 2026

AI / ML (10/20)



Date	Title	Author	Summary
20 April 2026	Machine Learning-optimized Feature Selection for Enhanced Accuracy in Early Prediction of Alzheimer's Disease and Mild Cognitive Impairment Using Markerless Gait Analysis: A Pilot Study	Rhea Doshi	• Introduction: This study addresses whether markerless gait analysis plus optimized ML can improve early AD/MCI detection by removing noisy, low-value features. • Methodology: In 25 older adults, recursive feature elimination reduced 87 gait variables to 12, and five ensemble architectures combining XGBoost, Random Forest, and SVM were compared with 5-fold stratified cross-validation. • Results: Feature reduction improved performance by 11.3%. The best ensemble achieved 88.0% accuracy for AD (AUC 0.93) and 84.0% for MCI (AUC 0.89); stride-velocity variability and stride-length asymmetry were strongest predictors. • Conclusions: Optimized feature selection materially strengthened early cognitive-impairment prediction.
20 April 2026	Evaluating the Accuracy of Artificial Intelligence (AI) Medical Scribe Software Utilization in Telestroke	Lana Prieur	• Introduction: This study evaluates AI scribe reliability in telestroke, where documentation errors may alter diagnostic reasoning and current evaluation metrics remain underdeveloped • Methodology: Twenty-five de-identified telestroke transcripts were processed by an OpenAI LLM, and AI-generated versus clinician-written HPIs were compared using Medical Concept Word Omission and Addition Rates plus diagnosis concordance. • Results: Twenty percent of AI HPIs led to discordant diagnoses. Incorrect cases had significantly higher omission rates ($p=0.0036$), while addition rates did not differ. • Conclusions: Medical Concept Omission Rate appears a clinically meaningful safety metric for AI scribes.

Notable Presentations At AAN 2026

AI / ML (11/20)



Date	Title	Author	Summary
20 April 2026	FREXADIGITAL AI Substudy: AI-based Smartphone Video Assessments of Motor Function in RMS and nrSPMS Population	Elena Gargaun	• Introduction: This study assesses whether video AI can feasibly generate sensitive digital motor biomarkers for monitoring progression in RMS and nrSPMS. • Methodology: In the FREXADIGITAL substudy, smartphone/tablet videos from clinic and home motor tasks were analyzed with pose-estimation algorithms; validation includes reliability, clinical anchors, longitudinal trends, and treatment-response analyses. • Results: Human factors testing showed strong usability (8.3/10). Baseline biomarker outputs are pending, with full performance results expected at study completion. • Conclusions: vAI appears feasible and scalable for objective, patient-centered MS monitoring, but clinical validity remains to be confirmed.
20 April 2026	Machine Learning-based Prediction of Unfavorable Outcomes in Embolic Stroke of Undetermined Source (ESUS)	Seung Min Kim	• Introduction: This study addresses outcome prediction in ESUS, where prognostic factors remain insufficiently defined despite substantial clinical heterogeneity. • Methodology: Using multicenter ROS-ESUS data, logistic regression, LightGBM, and MLP models were trained on demographic, clinical, laboratory, ECG, Holter, and echocardiographic variables to predict unfavorable mRS outcomes at 3 months and 1 year. • Results: ML outperformed logistic regression at 3 months (AUROC 0.854 vs 0.821), while LightGBM performed best at 1 year (0.835). NIHSS, age, and D-dimer were dominant predictors. • Conclusions: ML improved ESUS prognostication across short- and longer-term horizons.

Notable Presentations At AAN 2026

AI / ML (12/20)



Date	Title	Author	Summary
20 April 2026	Machine Learning Analysis of Archimedes Spirals in Movement Disorders and Current Underuse in Ataxia Syndromes: A Systematic Review	Jessica Martin	• Introduction: This review examines ML-based Archimedes spiral analysis as a low-cost diagnostic tool for movement disorders, highlighting its underuse in cerebellar ataxia. • Methodology: A systematic review of PubMed, Web of Science, and Google Scholar identified 21 eligible studies reporting ML architectures and diagnostic metrics. • Results: Most studies focused on Parkinson's disease and essential tremor; only two addressed cerebellar ataxia. CNNs dominated, with VGG16, AlexNet, and ResNet50 commonly showing high diagnostic performance, especially with pretrained or hybrid pipelines. • Conclusions: Spiral-based ML is promising but markedly underdeveloped for ataxia.
20 April 2026	Appraxi®: Innovation in Speech Rehabilitation With Artificial Intelligence for Patients With Neurological Disorders.	Marta M. Lira-Batista	• Introduction: This study addresses speech-rehabilitation access gaps in verbal apraxia by developing an AI-assisted tool for phoneme training in low-resource settings. • Methodology: Speech therapists built a graded stimulus network covering phonemes, articulation, and speech tasks, adapted for minimally literate adults using written, acoustic, and visual cues. • Results: Trained on 148 audio files, the prototype achieved 90% accuracy, outperforming the base FalaBrasil model (43–75%); unigram-based patient word analysis reached 92.1%. • Conclusions: Appraxi® appears clinically practical and scalable for in-clinic or remote apraxia rehabilitation.

Notable Presentations At AAN 2026

AI / ML (13/20)



Date	Title	Author	Summary
20 April 2026	Machine Learning Model Predicting Presence of Leptomeningeal Metastasis	Ryan Rilinger	• Introduction: This study targets earlier detection of leptomeningeal metastasis, where conventional imaging and CSF cytology often lack sensitivity and delay diagnosis. • Methodology: A two-stage random forest was trained on 3,518 patients and 4,197 lumbar punctures, integrating baseline clinical risk with dynamic CSF/laboratory variables, plus imputation, class weighting, and SHAP optimization. • Results: The final model achieved AUC 0.86, sensitivity 89%, and specificity 71%. Key predictors included BMI, cancer history, CSF corrected nucleated cell count, and CSF lymphocyte percentage. • Conclusions: RF-based multimodal modeling showed strong diagnostic potential for LMM risk stratification.
20 April 2026	Deep Learning-enhanced EEG Preprocessing for Early Alzheimer's Disease Detection	Nardin Samuel	• Introduction: This study addresses a key EEG-AI limitation in Alzheimer's detection: conventional preprocessing often leaves artifact contamination that weakens biomarker reliability. • Methodology: A deep-learning artifact removal module was added to an automated EEG pipeline, followed by UMAP-based feature embedding and random-forest classification with nested cross-validation across datasets. • Results: DL preprocessing improved signal fidelity, reduced ocular/myogenic artifacts, increased AD-control cluster separation, and raised classification performance to AUROC 0.86 versus conventional preprocessing. • Conclusions: DL-based denoising strengthened EEG biomarker quality and improved early AD classification robustness.

Notable Presentations At AAN 2026

AI / ML (14/20)



Date	Title	Author	Summary
20 April 2026	Resolving Rare Disease Diagnostic Odysseys: Real-world Impact of Physician-guided Use of Open-access AI LLMs in Community Neurology	Lingxuan Li	• Introduction: This study explores whether physician-guided, open-access LLMs can aid rare-disease diagnosis in real-world, resource-constrained settings. • Methodology: Proof-of-concept testing applied GPT and OpenEvidence to two confirmed and four unresolved cases, supported by guided prompting and literature comparison. • Results: LLMs generated focused differentials, suggested targeted molecular testing, and supported diagnostic clarification, multidisciplinary synthesis, clinical reframing, and explicit uncertainty recognition; outputs were broadly concordant across models. • Conclusions: Open-access LLMs may meaningfully augment rare-disease diagnosis, but prospective multicenter validation is essential.
20 April 2026	Artificial Intelligence in Autonomous Navigation for Endovascular Neurointerventions: Current Landscape	Valentina Velasco	• Introduction: This review examines AI for autonomous navigation in endovascular neurointerventions, a technically demanding field limited by complex anatomy and operator-dependent catheter control. • Methodology: A structured narrative review mapped studies across perception/mapping, path planning/control, and robotic integration using PubMed, IEEE Xplore, Scopus, and arXiv. • Results: Reinforcement and imitation learning predominated, alongside CNNs and graph networks for segmentation, path estimation, and localization. Most work remained in simulation or benchtop settings, with no human autonomous procedures. • Conclusions: The field is advancing, but clinical translation still depends on safety validation and standardized evaluation.

Notable Presentations At AAN 2026

AI / ML (15/20)



Date	Title	Author	Summary
20 April 2026	Machine Learning Models for Mortality and Readmission in Encephalopathy: Performance and Pitfalls From a Large ICU Cohort	Shankar Biswas	• Introduction: This study addresses prognostic uncertainty in ICU encephalopathy using EHR-based ML, while explicitly examining threats to validity such as leakage and spectrum bias. • Methodology: In 11,468 MIMIC-IV patients, five ML families were trained on 217 EHR features to predict mortality, ICU readmission, composite adverse outcomes, and poor functional recovery using leakage-mitigated splits. • Results: Random forests performed best, with AUROCs of 0.874–0.985; key drivers were age, illness severity, ICU type, and early physiologic instability. • Conclusions: Performance was strong internally, but external validation is essential before clinical deployment.
20 April 2026	Personalized Prediction of Regional Brain Atrophy in Parkinson's Disease through Multimodal Longitudinal AI Modeling	Tara Najafi	• Introduction: This study addresses individualized PD progression forecasting, where conventional models inadequately capture temporal and region-specific neurodegeneration. • Methodology: A multimodal LSTM model was trained on 424 longitudinal records from 197 PD patients, integrating serial 3D T1 MRI with clinical and biomarker data to predict future regional atrophy and classify high-risk regions. • Results: Performance was strong across multiple regions, with 5 AUROCs >0.9, 11 >0.8, sensitivity >0.85, and low MAE, particularly in putamen, brainstem, and hippocampus. • Conclusions: The model shows clinically meaningful potential for personalized PD atrophy forecasting.

Notable Presentations At AAN 2026

AI / ML (16/20)



Date	Title	Author	Summary
20 April 2026	Development of an Artificial Intelligence Framework for Accurate Diagnosis of Synucleinopathies using Clinical Features	Juan D. Martinez Lemus	• Introduction: This study examines whether harmonized clinical scales can distinguish overlapping synucleinopathies using AI. • Methodology: An XGBoost classifier was trained on multicenter PPMI/PDBP data from 2,009 participants using ADL, MDS-UPDRS, MoCA, UPSIT, and sleepiness measures, with cross-validation and one-vs-rest feature analysis. • Results: Overall accuracy was 93.3%, macro-AUC 0.981, and macro-F1 0.851; performance was strongest for PD and controls, but MSA sensitivity was modest (0.55). ADL and motor scores were most informative. • Conclusions: Clinical scales can robustly classify synucleinopathies, supporting AI-based diagnostic stratification.
21 April 2026	Developing Radiomic Neuroimaging Biomarkers Using Machine Learning for Predicting Post-traumatic Epilepsy	Jerome Jeevarajan	• Introduction: This study explores whether CT radiomics can identify imaging biomarkers predictive of post-traumatic epilepsy after severe TBI. • Methodology: In 82 patients, radiomic, demographic, social, and clinical features were used to train logistic regression, random forest, XGBoost, and XGBRF models with nested cross-validation and repeated evaluation. • Results: Logistic regression performed best (AUC 0.722±0.082). The most stable biomarkers were frontal lobe zone variance, limbic lobe coarseness, and frontal large-area low-gray-level emphasis. • Conclusions: CT radiomics showed moderate prognostic value for PTE risk stratification.

Notable Presentations At AAN 2026

AI / ML (17/20)



Date	Title	Author	Summary
21 April 2026	To Develop a Machine Learning Model to Diagnose Acute Ischemic Stroke, Large Vessel Occlusion and Cerebral Collaterals	Dulari Gupta	• Introduction: This study addresses rural stroke-care gaps by using AI to detect acute ischemic stroke, large vessel occlusion, and collateral status from NCCT/CTA. • Methodology: In 156 suspected anterior-circulation stroke cases from Western India, seven ML models were trained using demographics, vascular risk factors, NCCT-derived ASPECTS, and CTA-based clot/collateral labels. • Results: XGBoost performed best, achieving AUC 0.88 for AIS detection, with 85% sensitivity/90% specificity; it also showed 87% sensitivity and 85% specificity for LVO, and 82% accuracy for collateral classification • Conclusions: The model shows strong potential for stroke triage in remote settings.
21 April 2026	Machine Learning Models to Predict Withdrawal of Life-sustaining Therapy in Patients With Severe Traumatic Brain Injury	Michael D. Cobler-Lichter	• Introduction: This study examines whether ML can predict WLST after severe TBI and quantify the influence of institutional practice patterns. • Methodology: Using Trauma Quality Improvement Program data (2017–2021), models were trained on 155,639 severe TBI cases with time-specific variables; SHAP identified key determinants. • Results: WLST occurred in 20.8%. Model performance was strong (AUROC 0.875 at admission; 0.896 by total stay). Age, highest ED GCS, and facility WLST rate were the dominant predictors. • Conclusions: Institutional withdrawal culture substantially influences WLST, highlighting potential bias in end-of-life decisions.

Notable Presentations At AAN 2026

AI / ML (18/20)



Date	Title	Author	Summary
21 April 2026	Development and External Validation of Machine Learning Models for Sepsis Prediction in Aneurysmal Subarachnoid Hemorrhage	Dhruv Patel	• Introduction: This study addresses early sepsis prediction in aSAH, where standard scores such as SIRS/SOFA perform poorly because neurologic and infectious features overlap. • Methodology: ML models were trained on 803 MIMIC-IV aSAH ICU patients using 34 admission-time variables, with external validation in 763 eICU patients. • Results: Random Forest performed best (ROC-AUC 0.915), followed by MLP/CNN (0.868). External validation remained strong (0.833 and 0.820), supporting generalizability. • Conclusions: This represents a robust, externally validated AI framework for early sepsis risk stratification in aSAH.
21 April 2026	Vascular Risk Prediction in Migraine: A Multimodality Risk Score Based on Artificial Intelligence-electrocardiogram Output, Echocardiography, and Detailed Migraine Characteristics	Keiko Ihara	• Introduction: This study evaluates multimodal vascular-risk prediction in migraine, a population with elevated cerebrovascular and cardiovascular risk. • Methodology: In 297 Mayo Clinic patients, investigators combined demographics, comorbidities, AI-ECG output, echocardiography, and migraine features into a 20-parameter risk model, supplemented by multivariate Cox analysis. • Results: Over 68.9 months, 11.8% reached the composite endpoint. A risk score ≥ 15 predicted markedly shorter event-free survival (HR 3.85); comorbidities and migraine characteristics were independently predictive, while AI-ECG/echo added less relative signal. • Conclusions: Multimodal stratification is feasible, with migraine phenotype remaining clinically important.

Notable Presentations At AAN 2026

AI / ML (19/20)



Date	Title	Author	Summary
22 April 2026	Machine Learning Prediction of Reversible Versus Progressive Cognitive Impairment Using Clinical Documentation	Peter S. Pressman	• Introduction: This study targets automated detection of reversible cognitive impairment, where specialist triage is often delayed. • Methodology: In 863 memory-clinic patients, routine questionnaires, medication data, and symptom indicators were combined into composite psychiatric, pain, sleep, and polypharmacy risk scores; logistic regression, random forest, and gradient boosting replicated specialist judgment. • Results: Treatable impairment was identified in 28.7–32.8%. Non-progressive cases showed higher mood, pain, and medication-risk burdens. Gradient boosting performed best (AUROC 0.885 mild; 0.749 severe). • Conclusions: Routine clinical documentation can support clinically meaningful screening for reversible cognitive impairment.
22 April 2026	Artificial Intelligence in the Prehospital Stage of Stroke: Can Virtual Assistants Optimize Triage?	Agostina L. Kañevsky	• Introduction: This study addresses delayed stroke recognition by evaluating an AI virtual assistant for early detection and emergency referral. • Methodology: A prospective cohort of 78 adults in a Buenos Aires neurovascular unit assessed a tool refined using literature review and 1,151 simulated records; outcomes included diagnostic accuracy, referral appropriateness, and satisfaction. • Results: Syndromic accuracy was 89.7%, top-1 diagnosis 71.8%, top-3 91%, and referral accuracy 93.6%; median use required 10 questions and 4 minutes. • Conclusions: The assistant showed strong triage performance and high acceptability.

Notable Presentations At AAN 2026

AI / ML (20/20)



Date	Title	Author	Summary
22 April 2026	Predicting Amyloid-beta Positivity in Cognitively Intact Adults Using Multi-contrast Three-dimensional MRI and Deep Learning	Pouria Saidi	• Introduction: This study evaluates whether multimodal 3D MRI can serve as a scalable surrogate for amyloid PET in cognitively normal individuals. • Methodology: Self-supervised contrastive pretraining on unlabeled ADNI T1/FLAIR scans supported a gated-fusion CNN model, trained on 279 ADNI participants and externally tested in 68 institutional cases. • Results: Performance was modest: ADNI accuracy 0.63, sensitivity 0.52, specificity 0.73; external sensitivity 0.51, specificity 0.67. T1 contributed more than FLAIR, and PPV was higher in APOEε4 carriers • Conclusions: MRI-only amyloid prediction remains limited but methodologically promising.
22 April 2026	Decoding Parkinson's Disease through Network Metrics of Inertial Sensor Data: A Machine Learning approach	Salvatore Mazzeo	• Introduction: This study examines whether multi-segment IMU gait data, enriched with network descriptors, can improve objective PD classification beyond conventional metrics. • Methodology: Signals from body-worn sensors underwent statistical and Jensen–Shannon network feature extraction, followed by voting-based feature selection, nested cross-validation, XGBoost classification, and SHAP interpretation. • Results: Performance was strong (AUC 0.88; accuracy 0.81). Key features included variability indices plus clustering strength and connectivity density, capturing axial rigidity and impaired trunk-limb coordination • Conclusions: Network-informed wearable analytics show promise as interpretable digital biomarkers for PD.

Strategic Insights and Strategy Development is our focus



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