CONy 2025 Clinical and AI / ML Preview

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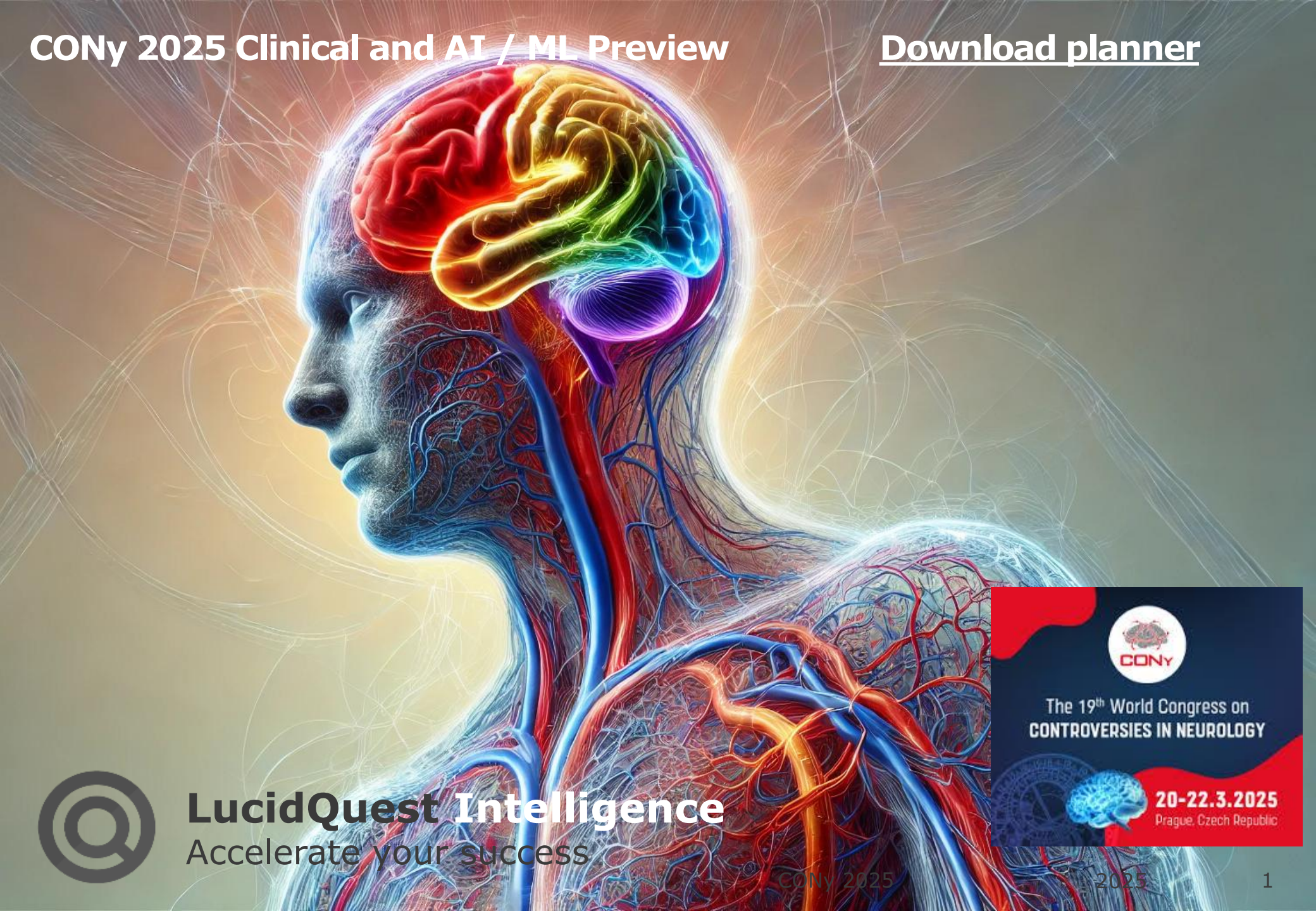

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CONy 2025 – General Overview

- **Innovative Neurology Research:** Leading experts will present groundbreaking research in neurology, focusing on new treatments for Alzheimer's, multiple sclerosis, and neuroinflammatory diseases

- **Collaborative Advances:** Global collaboration among scientists, clinicians, and industry leaders to drive advancements in the treatment and management of neurological disorders

- **Therapeutic Innovations:** Exploration of novel biologic treatments, including monoclonal antibodies and targeted therapies for neurodegenerative diseases and autoimmune conditions

- **Research to Clinical Practice:** Emphasis on translating cutting-edge research into clinical practices, highlighting partnerships between academic institutions and the pharmaceutical industry

- **Personalized Neurology Care:** Focus on patient-centric approaches, utilizing real-world data and evidence to tailor treatments and improve patient outcomes across neurological diseases

CONy 2025– Conference Themes (1/2)

- **Advances in Neurodegenerative Disease Treatments:** Discussion on the latest therapies for Alzheimer's, Parkinson's, and other neurodegenerative conditions, with a focus on disease-modifying treatments
- **Multiple Sclerosis (MS) Innovations:** Exploring new clinical trial results, biomarkers, and therapies targeting MS progression and relapse prevention
- **Epilepsy Management:** Insights into emerging treatments for epilepsy, including novel antiepileptic drugs and innovative neuromodulation techniques
- **Neuroinflammation & Autoimmune Disorders:** Updates on the role of inflammation in neurological diseases and breakthroughs in autoimmune-related treatments like NMOSD
- **Neurorehabilitation Technologies:** Focus on cutting-edge neurorehabilitation strategies, including virtual reality and brain-computer interfaces, to support recovery after neurological injury

CONy 2025– Conference Themes (2/2)

- **Biomarkers & Diagnostics:** The use of biomarkers for early diagnosis and treatment monitoring in neurological disorders such as MS, ALS, and Alzheimer's will be discussed
- **Neurogenetics & Personalized Medicine:** Highlighting genetic discoveries and their implications for personalized treatments in various neurological diseases
- **Neurovascular Disorders:** Review of advancements in stroke treatment, neurovascular imaging, and interventions for cerebrovascular diseases
- **Artificial Intelligence in Neurology:** Exploring the role of AI and machine learning in diagnosing neurological conditions, predicting outcomes, and personalizing treatment plans for better patient care

Noteworthy Scientific presentations at CONy 2025

Key Topics From Notable Presentations (1/9)

- **Alzheimer's Disease & Cognitive Disorders:** Sessions will highlight Donanemab's promising results in slowing Alzheimer's disease progression, and how health behaviors like adherence to the Mediterranean diet can also play a significant role in dementia prevention
  - Amyloid Clearance and Clinical Efficacy in Alzheimer's Disease: TRAILBLAZER-ALZ 2 trial identifies Donanemab treatment-induced rapid amyloid clearance (rAC), leading to reduced tau accumulation, changes in plasma biomarkers, and 33.6% slower disease progression compared to the placebo group
  - Donanemab Dosing Regimens and ARIA-E Risk: TRAILBLAZER-ALZ 6 detected modified dosing regimens significantly reduced ARIA-E risk (41% relative risk reduction) in early symptomatic Alzheimer's while maintaining amyloid and P-tau217 reductions
  - Mediterranean Diet Adherence and Health Cognitions in Dementia Prevention: Health cognitions, such as perceived severity and cues to action, predicted adherence to the Mediterranean diet in a study of 512 Israeli adults, providing insights for targeted dementia prevention interventions

Key Topics From Notable Presentations (2/9)

- **Multiple Sclerosis (MS) & Related Disorders:** Spotlight will be on how Frexalimab shows promise in reducing disease activity in RMS, while early diagnosis and better nutritional education are critical in managing MS. Tau and lateral ventricle volume changes may offer new insights into disease progression
  - Frexalimab's Efficacy in Relapsing MS: The Exploratory MRI Outcomes and Plasma NfL Levels in Frexalimab-Treated Participants with RMS and Safety and Efficacy of Frexalimab in the Treatment of Relapsing MS studies showed Frexalimab reduced new lesions and NfL levels, indicating its potential in reducing neuroinflammation in RMS
  - MS Diagnosis and Nutritional Guidance: The Diagnostic Age of Patients with MS in Azerbaijan and Assessing Nutritional Knowledge for MS Patients in Ukraine studies found MS is most often diagnosed between ages 20-49, and patients seek better nutritional guidance
  - Pediatric MS and Neurodegeneration: The Lateral Ventricle Volume and Disease Progression in Pediatric MS and Tau in MS studies revealed lateral ventricle volume changes correlate with disease progression, while tau accumulation could serve as a new therapeutic target

Key Topics From Notable Presentations (3/9)

- **NMOSD & Myasthenia gravis:** The presentations are set to showcase Inebilizumab and Efgartigimod's substantial efficacy in treating NMOSD and gMG, improving patient outcomes, reducing corticosteroid dependence, and enhancing overall disease management
  - Inebilizumab Efficacy in Non-White Populations with NMOSD: The N-Momentum Phase 2/3 Trial showed that Inebilizumab significantly reduced attacks in all ethnic groups, with the lowest annualized attack rate observed in Black/African American participants. Further studies are needed to confirm these results
  - Improvement in Pain and Quality of Life in NMOSD: The N-MOmentum Trial (3-year follow-up) demonstrated significant improvements in pain, quality of life, and disability scores in Inebilizumab-treated attack-free participants, independent of acute attack recovery
  - Efgartigimod's Efficacy in gMG: The ADAPT, ADAPT+, and ADAPT-SC studies revealed that Efgartigimod significantly improved minimal symptom expression in AChR-Ab+ participants and reduced oral corticosteroid use, leading to significant improvements in MG-ADL scores

Key Topics From Notable Presentations (4/9)

- **Epilepsy & Seizure Disorders:** Discussions will be on how alterations in the gut microbiome, emotional behavior, and acute stress can significantly influence seizure activity, offering potential new therapeutic avenues for epilepsy management
  - Gut Microbiome and Seizure Exacerbations: Significant changes in microbiota composition were observed in the Alterations in Gut Microbiome and Seizure Exacerbations study, with Fusobacteria and Synergistetes decreased and Leuconostocaceae increased, suggesting a link between microbiome alterations and seizure exacerbations
  - Emotional Disturbances and Seizure Modulation: The Ventral Tegmental Area Stimulation in Seizure Modulation and Emotional Behavior and Seizure Development studies showed that stimulation of the ventral tegmental area and dorsomedial hypothalamus inhibited seizure activity, suggesting emotional disturbances can modulate seizures, providing new pathways for treatment
  - Acute Stress and Seizure Activity: The Acute Stress and Epileptiform Activity in Rats study found that nociceptive stress significantly reduced both ECoG and motor manifestations of epilepsy, providing insights into how acute stress may temporarily modulate seizure activity

Key Topics From Notable Presentations (5/9)

- **Stroke & Neurovascular Diseases:** The conference will highlight that the Effective stroke management hinges on accurate diagnosis using advanced imaging and thrombus pathology, as well as early interventions for underlying conditions such as ASA, IMA, and APS
  - Anesthesia, Thrombectomy, and Outcomes: The TICI 2b/3 study highlights that sedation was linked to better outcomes in thrombectomy, improving NIHSS/GCS scores, and reperfusion success, while acoustic schwannomas may cause hydrocephalus, managed effectively by ventriculoperitoneal shunting
  - Thrombus Pathology and Stroke Diagnosis: Thrombus analysis identified rare causes like cardiac myxoma and infective endocarditis, and recognizing aneurysm features, as shown in Intracranial Mycotic Aneurysms in the Philippines, is vital for improving stroke outcomes
  - Stroke Mechanisms and Related Conditions: Studies on midbrain infarct and embolic stroke from ASA and APS emphasize the importance of precise diagnosis and targeted anticoagulant therapy

Key Topics From Notable Presentations (6/9)

- **Headaches & Pain Management:** Studies will highlight improved headache diagnosis, early recognition of conditions like SIH (Spontaneous intracranial hypotension), and addressing comorbidities such as OSA in cluster headache patients can lead to better management and outcomes
  - Headache Diagnosis and Misdiagnoses: A study examining 476,191 migraine patients in the Clinical Practice Research Datalink found that misdiagnosis, particularly as sinusitis and neck pain, is common, underscoring the need for better diagnostic accuracy in primary care
  - Spontaneous Intracranial Hypotension (SIH): A case study of a 36-year-old male diagnosed with SIH after MRI revealed pachymeningeal thickening and disc protrusions, demonstrating the importance of early SIH recognition for appropriate treatment and avoiding unnecessary procedures
  - Cluster Headaches and Obstructive Sleep Apnea (OSA): A STOP-Bang screening in cluster headache patients identified OSA risk, emphasizing its role in clinical practice for detecting comorbidities in those with higher BMI and smoking rates

Key Topics From Notable Presentations (7/9)

- **Neurodegenerative Diseases & Other Neuropathies:** Antioxidants like lycopene may help mitigate neuroinflammation, while early detection and genetic testing are crucial for managing neuropathies like CTS and CMT, improving patient outcomes will be discussed
  - Lycopene's Antioxidant and Anti-inflammatory Effects: A study investigating the effects of lycopene (50 mg/kg) on oxidative stress and inflammation in rats showed that it significantly reduced LPS-induced brain damage, suggesting its potential to prevent brain damage during endotoxemia
  - Carpal Tunnel Syndrome (CTS) in ESRD Patients: A cohort study of 24 ESRD patients found that early diagnosis and carpal tunnel release surgery significantly improved symptoms, with a correlation between dialysis duration and CTS severity
  - Genetic Diagnosis in Charcot-Marie-Tooth (CMT) Disease: A study on a 54-year-old male with lower extremity weakness identified a PMP22 gene duplication, confirming CMT Type 1A. This highlights the importance of genetic testing for early diagnosis and intervention

Key Topics From Notable Presentations (8/9)

- **Other Clinical and Diagnostic Studies:** Riliprubart and efgartigimod are expected to show significant promise in treating CIDP, while baicalin data will show a potential neuroprotective agent for managing neuronal damage
  - Riliprubart for CIDP: Phase 2 and 3 trials of Riliprubart, a humanized IgG4-monoclonal antibody targeting activated-C1s, are evaluating its efficacy in treating chronic inflammatory demyelinating polyneuropathy (CIDP) in various patient subgroups, with promising preliminary results
  - Efgartigimod for CIDP: The ADHERE trial demonstrated that efgartigimod significantly reduced relapse risk in CIDP patients, with a favorable safety profile over 137.42 patient years
  - Baicalin's Neuroprotective Effects: Baicalin, a flavonoid from Scutellaria baicalensis, exhibited antioxidant and anti-apoptotic effects in glutamate-exposed neuronal cells, suggesting its potential for treating neurodegenerative diseases

Key Topics From Notable Presentations (9/9)

- **Miscellaneous:** Efgartigimod shows sustained clinical benefits for gMG, while early detection of conditions like COQ10D4 and chronic polyneuropathy can significantly improve diagnosis and management in neurology
  - Primary Coenzyme Q10 Deficiency (COQ10D4): A case report on two brothers with COQ10D4, presenting with cerebellar ataxia, muscle weakness, and cognitive impairment. Early detection of COQ8A mutations aids in effective diagnosis and management
  - Chronic Axonal Polyneuropathy and ALSA: A study in ALS patients revealed that 14% of participants had chronic axonal polyneuropathy, suggesting a potential overlap between ALS and polyneuropathy, which warrants further research

Focus of Key Industry Sponsored Symposia/ Session at CONy 2025 (1/2)

- **Sanofi :**
  - Focus Areas: Multiple Sclerosis (MS) & Parkinson's Disease
  - Sessions will focus on new frontiers in detecting and managing MS progression, understanding the biological cascade of progressive MS, and addressing complexities in non-relapsing secondary progressive MS. Additionally, discussions will cover patient support throughout their Parkinson's disease journey

- **argenx :**
  - Focus Areas: Generalized Myasthenia Gravis (gMG)
  - Presentations will explore the transformation of outcomes in gMG with precision medicine, with a focus on redefining treatment strategies and addressing unmet needs in gMG management

Focus of Key Industry Sponsored Symposia/ Session at CONy 2025 (2/2)

- **Britannia Pharmaceuticals :**
  - Focus Areas: Parkinson’s Disease
  - Discussions will cover device-aided therapy (DAT) options for early-stage Parkinson’s disease and intrajejunal levodopa-entacapone-carbidopa infusion (LECIGON) as a well-established therapy for advanced Parkinson’s disease management

Notable Presentations Information at CONy 2025

Notable Presentations at CONy 2025
Alzheimer's Disease & Cognitive Disorders (1/3)

Date	Title	Author	Summary
On Demand	Rapid amyloid clearance and efficacy: Results from TRAILBLAZER-ALZ 2, a phase 3 study of donanemab for treatment of early Alzheimer`s disease	Mihaela Nica	• **Introduction:** This analysis explores the impact of rapid amyloid clearance (rAC) on biomarkers and clinical efficacy in participants receiving donanemab treatment in the TRAILBLAZER-ALZ 2 trial. • **Methodology**: In a randomized trial, participants were given donanemab or placebo for 72 weeks. rAC was defined as achieving brain amyloid levels below 24.1 Centiloids by amyloid PET at 24 or 52 weeks. Propensity score matching selected a placebo group (mPlacebo) matched by baseline factors. Biomarkers and clinical measurements were compared at 76 weeks. • **Results:** The rAC group showed less tau accumulation, significant changes in plasma P-tau217 and glial fibrillary acidic protein, and 33.6% slower disease progression compared to mPlacebo. • **Conclusions:** Donanemab-induced rAC significantly impacted biomarkers and clinical outcomes, indicating its potential therapeutic benefit in Alzheimer's disease.
On Demand	The effect of different donanemab dosing regimens on ARIA-E and amyloid lowering in adults with early symptomatic alzheimer's disease: primary outcome results from TRAILBLAZER-ALZ 6	Mihaela Nica	• **Introduction:** The TRAILBLAZER-ALZ 6 study (NCT05738486) evaluated donanemab dosing regimens' impact on ARIA-E in early symptomatic Alzheimer's disease (AD). • **Methodology**: A phase 3b, multicenter, randomized study (n=843) assessed ARIA-E risk using Bayesian logistic regression, with brain amyloid and plasma P-tau217 as secondary outcomes. • **Results:** At week 24, the modified titration arm (13.7%) showed a 41% relative risk reduction of ARIA-E compared to the standard arm (23.7%). ARIA-E severity was also lower in the modified titration arm. Amyloid reduction was similar across groups, and plasma P-tau217 reductions were consistent. • **Conclusions:** Modified titration dosing significantly reduced ARIA-E risk while preserving amyloid and P-tau217 reduction.

Notable Presentations at CONy 2025
Alzheimer's Disease & Cognitive Disorders (2/3)

Date	Title	Author	Summary
On Demand	From Perception to Plate: Exploring Mediterranean Diet and Dementia Prevention Through the Health Belief Model	Ofer Emanuel Edelstein	• **Introduction:** This study aimed to assess adherence to the Mediterranean diet (MD) in Israel-born individuals aged 50 and above and to explore the relationship between Health Belief Model variables and MD adherence • **Methodology**: A cross-sectional online survey (2022-2023) included 512 participants aged 50+, with MD adherence measured via I-MEDAS and cognitive perceptions assessed using the Motivation to Change Lifestyle and Health Behaviors for Dementia Risk Reduction questionnaire. • **Results:** The average MD adherence score was 9.35/17. Significant predictors included perceived severity (β=-.204), cues to action (β=.194), gender (female, β=.192), and low income (β=-.156). The model explained 15.7% of MD adherence variance. • **Conclusions:** Health cognitions, such as perceived severity and cues for action, are key in predicting MD adherence, providing insights for targeted intervention programs.
On Demand	Association Between Body Mass Index and the Survival in Older Patients with Dementia	Zviadi Maglapheridze	• **Introduction:** This study aimed to examine the relationship between BMI and survival rates in dementia patients with eating disorders. • **Methodology**: A cross-sectional study (2020-2023) involving 77 patients (mean age 78) assessed dementia using MMSE and CDR scales. Participants were grouped by BMI, and survival rates over 25 weeks were analyzed. • **Results:** The 25-week survival rate was 20.8%. Group 1 (BMI <25 kg/m²) had the lowest survival (13.6%), while groups 2 and 3 had higher rates (28.6%, 33.3%). Hazard ratios showed lower BMI associated with worse survival. • **Conclusions:** Lower BMI is a predictor of poorer survival outcomes in dementia patients.

Notable Presentations at CONy 2025
Alzheimer's Disease & Cognitive Disorders (3/3)

Date	Title	Author	Summary
On Demand	Will Lecanemab Improve Outcomes for Patients with Alzheimer's Disease?	Maryam Halabi	• **Introduction:** Alzheimer's disease (AD) is a progressive neurodegenerative disorder. Current treatments offer symptomatic relief but do not alter disease progression. Disease-modifying therapies (DMTs), particularly monoclonal antibodies (MABs) like Lecanemab, are emerging as potential options to slow cognitive decline. • **Methodology**: This poster reviews Phase 2 double-blind clinical trials assessing Lecanemab's efficacy, using the Alzheimer's Disease Composite Score (ADCOMS) and volumetric MRI. Research was collated from journal databases with filters for Lecanemab-related clinical outcomes. • **Results:** Lecanemab demonstrated a 28.5% reduction in cognitive decline at 18 months, along with reduced hippocampal atrophy. Simulation models suggested a 1.03-year survival extension and 0.75 QALYs improvement. • **Conclusions:** Lecanemab shows promise in slowing AD progression and enhancing patient outcomes, though further Phase 3 trials are needed to confirm long-term effects.

Notable Presentations at CONy 2025
Multiple Sclerosis (MS) & Related Disorders (1/4)

Date	Title	Author	Summary
On Demand	Exploratory MRI Outcomes and Plasma NfL Levels in Frexalimab-Treated Participants with Relapsing Multiple Sclerosis: Week 48 Results from the Phase 2 Open-Label Extension	Gavin Giovannoni	• **Introduction:** Frexalimab, a second-generation anti-CD40L monoclonal antibody, inhibits the CD40/CD40L pathway and has shown efficacy in reducing relapsing multiple sclerosis (RMS) lesions. However, its effects on chronic neuroinflammation and neurodegeneration biomarkers are less understood • **Methodology**: In a phase 2 open-label-extension (OLE) study, participants were randomized to receive frexalimab1200/IV, frexalimab300/SC, or placebo. MRI outcomes, including paramagnetic rim lesions (PRLs), new T1-hypointense lesions, and plasma neurofilament light chain (NfL) levels, were assessed at Week 48. • **Results:** At W48, frexalimab1200/IV showed no new PRLs, and lower new T1-hypointense lesions. NfL reductions were 41% (frexalimab1200/IV) and 35% (frexalimab300/SC) compared to baseline. • **Conclusions:** Frexalimab demonstrates effects on chronic neuroinflammation and neurodegeneration, warranting further investigation in RMS and secondary progressive MS.
On Demand	Safety and Efficacy of Frexalimab in the Treatment of Relapsing Multiple Sclerosis: 18-Month Results from the Phase 2 Open-Label Extension	Gavin Giovannoni	• **Introduction:** Frexalimab, an anti-CD40L monoclonal antibody, blocks immune pathways and reduced disease activity in RMS during a phase-2 trial, with sustained effects through Week 48. • **Methodology**: Participants received either 1200-mg IV, 300-mg SC doses, or placebo. After Week 12, placebo participants switched to frexalimab. Safety and efficacy were assessed at Week 72, including gadolinium-enhancing T1-lesions and new T2-lesions. • **Results:** At W72, T1-lesions remained low across groups. Safety was consistent with no new signals, with nasopharyngitis, COVID-19, and headache as the most common adverse events. • **Conclusions:** Frexalimab showed sustained efficacy and safety, supporting further phase-3 trials for RMS.

Notable Presentations at CONy 2025
Multiple Sclerosis (MS) & Related Disorders (2/4)

Date	Title	Author	Summary
On Demand	Diagnostic Age of Patients with Multiple Sclerosis in Azerbaijan: A Clinical and Epidemiological Study	Rahim Aliyev	• **Introduction:** Multiple sclerosis (MS) is a chronic autoimmune disease affecting the central nervous system, with a higher prevalence in young adults, particularly females. This study aimed to analyze the diagnostic age of MS patients in Azerbaijan**.** • **Methodology**: Data from 1,796 MS patients recorded under the State Program (2013-2022) were analyzed. Patients were grouped by 10-year diagnostic age intervals, and sex, clinical course, residency, and diagnostic delay were assessed. • **Results:** The average diagnostic age was 34.9 years. MS was most commonly diagnosed in the 30–39 age group (39.15% women, 38.80% men). Women were diagnosed more frequently, especially in those ≥60 years (7:1 ratio). • **Conclusions:** MS is most frequently diagnosed between ages 20-49 in Azerbaijan, with older individuals showing higher rates of secondary progressive MS.
On Demand	Assessing Nutritional Knowledge and the Quality of Dietary Recommendations for Patients with Multiple Sclerosis in Ukraine: a Mixed-Methods Study	Kateryna Potapova	• **Introduction:** This study evaluates patient satisfaction with dietary advice and explores the need for tailored educational materials in multiple sclerosis (MS) management. • **Methodology**: A mixed-methods design was used, including structured questionnaires and semi-structured interviews with MS patients at Kyiv City Clinical Hospital №4. • **Results:** 52 patients participated (median age 36). 70.6% valued nutrition recommendations, with moderate satisfaction scores for both online resources (3.7/5) and physician advice (3.6/5). Key themes included insufficient evidence-based dietary recommendations, the need for personalized guidance, and inconsistent advice across physicians. • **Conclusions:** MS patients seek better evidence-based nutritional guidance, highlighting the need for improved educational materials.

Notable Presentations at CONy 2025
Multiple Sclerosis (MS) & Related Disorders (3/4)

Date	Title	Author	Summary
On Demand	Lateral Ventricle Volume is associated with disease severity in Pediatric Multiple Sclerosis.	Shay Menascu	• **Introduction:** Brain volume loss is linked to patient deterioration, but the effects of lateral ventricular volume changes in pediatric-onset multiple sclerosis (POMS) are less explored. • **Methodology**: Brain MRIs at baseline and 3-year follow-up were analyzed for lateral ventricle volume changes in POMS patients, with comparison to age- and sex-matched controls. • **Results:** In 66 patients (39 females, mean age 13.8 years), lower lateral ventricle volumes at onset correlated with higher EDSS scores (p=0.05). After 3 years, higher ventricle volumes were associated with higher EDSS scores (p=0.002). • **Conclusions:** Lateral ventricle volume changes are linked to disease progression in POMS, aiding in early disease monitoring.
On Demand	Tau in Multiple Sclerosis: Mediator or Bystander in Disease Progression?	Carolin Hoehne	• **Introduction:** Multiple Sclerosis (MS) involves both inflammation and neurodegeneration. While therapies address inflammation in relapsing-remitting MS, they are less effective for progressive MS. Emerging evidence suggests tau may play a role in MS. • **Methodology**: Tau seeding was detected in brain tissue from 6/8 MS subjects using biosensor systems. A literature review analyzed rodent models, human brain tissue, cerebrospinal fluid, and PET imaging for tau pathology in MS. • **Results:** Abnormal tau aggregates were identified in MS brains, particularly in lesion borders. Tau may act as an acute-phase protein, contributing to neurodegeneration. • **Conclusions:** Tau may mediate MS progression, though challenges in models and biomarkers remain. Targeting tau or inflammation could offer new therapeutic approaches

Notable Presentations at CONy 2025
Multiple Sclerosis (MS) & Related Disorders (4/4)

Date	Title	Author	Summary
On Demand	Trigeminal neuralgia in multiple sclerosis – case series	Andreea Plesa	• **Introduction:** Trigeminal neuralgia, often linked to demyelinating lesions in MS, is characterized by intense pain. This study examines MS patients with trigeminal neuralgia to improve patient care strategies. • **Methodology**: We reviewed five MS cases with trigeminal neuralgia, analyzing the onset of both conditions, treatments, and brain MRI for demyelinating lesions. • **Results:** Patients (ages 44-48) had either relapsing-remitting or secondary progressive MS. Trigeminal neuralgia developed 9.6 years after MS onset. Imaging showed pontine lesions in three patients, with limited symptom relief from treatments like Gasser ganglion ablation or microvascular decompression. • **Conclusions:** This case series emphasizes the complex link between MS and trigeminal neuralgia, highlighting the need for personalized care.
On Demand	Why navigated transcranial magnetic stimulation is not used in clinical settings as an objective method for assessing motor disability in patients with multiple sclerosis?	Sanda Pavelin	• **Introduction:** While MRI is the standard for diagnosing and monitoring multiple sclerosis (MS), evoked potentials (EP) like MEP, SEP, and VEP are often undervalued in assessing motor and sensory pathways. MEP latency correlates with corticospinal tract function and clinical EDSS scores. • **Methodology**: This study used navigated transcranial magnetic stimulation (nTMS) to map corticospinal tract integrity for upper and lower extremity muscles in PPMS and RRMS patients, supplementing standard EDSS evaluation. • **Results:** Cases demonstrated the benefits of nTMS in conjunction with EDSS for assessing motor disability, with nTMS providing enhanced precision over traditional MEP methods • **Conclusions:** nTMS offers improved targeting and visualization of motor cortices, showing promise in monitoring MS progression.

Notable Presentations at CONy 2025
NMOSD & Myasthenia gravis (1/3)

Date	Title	Author	Summary
On Demand	Efficacy and Safety of Inebilizumab Among Non-White Demographic Groups with Neuromyelitis Optica Spectrum Disorder: N-MOmentum Study Subgroup Analysis	Friedemann Paul	• **Introduction:** There is a need for efficacy and safety data of disease-modifying therapies for Neuromyelitis Optica Spectrum Disorder (NMOSD) in non-White populations. Inebilizumab (INEB), an anti-CD19 B cell depleting antibody, is approved for AQP4+ NMOSD. • **Methodology**: N-Momentum a phase 2/3 trial, assessed INEB's efficacy and safety in adults with NMOSD over a 28-week randomized controlled period (RCP) and an open-label period (OLP) of ≥2 years. • **Results:** INEB significantly reduced attacks in all ethnic groups compared to placebo. EDSS worsening was less frequent in White participants receiving INEB. The annualized attack rate was lowest in Black/African American participants. • **Conclusions:** Non-White NMOSD patients receiving INEB showed improved outcomes, similar to White participants, but further studies are needed to confirm these results.
On Demand	Improvements in Pain and Disability Contribute to Improved Quality of Life After Inebilizumab Treatment in Attack-Free Neuromyelitis Optica Spectrum Disorder (NMOSD) Participants	NA	• **Introduction:** Chronic pain and disability in NMOSD reduce quality of life (QoL). This study evaluates improvements in pain and QoL in attack-free, inebilizumab-treated participants over 3 years. • **Methodology**: N-MOmentum assessed year-over-year changes in pain (SF-36 BPS), QoL (SF-36 PCS), and disability (EDSS) in 230 participants treated with inebilizumab for ≥3 years. • **Results:** After 3 years, 32/36 participants with abnormal baseline QoL showed improvement. Pain scores improved in 29/37 participants with abnormal baseline pain. EDSS improvements were noted in 40/91 participants. • **Conclusions:** Significant improvements in pain, QoL, and disability were observed in attack-free participants on inebilizumab, independent of acute attack recovery

NMOSD: Neuromyelitis Optica Spectrum Disorder

Notable Presentations at CONy 2025
NMOSD & Myasthenia gravis (2/3)

Date	Title	Author	Summary
On Demand	Achievement of Minimal Symptom Expression in Participants Treated With Efgartigimod in ADAPT+ and ADAPT-SC+	Stojan Peric	• **Introduction:** Efgartigimod, an IgG1 antibody Fc-fragment, reduces IgG levels via neonatal Fc receptor blockade. It has been studied in generalized myasthenia gravis (gMG) through intravenous (IV) and subcutaneous (SC) administration in the ADAPT/ADAPT+ and ADAPT-SC/ADAPT-SC+ studies. Minimal symptom expression (MSE), defined as a Myasthenia Gravis Activities of Daily Living (MG-ADL) total score of 0 or 1, is explored as a novel treatment target. • **Methodology**: The proportion of AChR-Ab+ participants achieving MSE in ADAPT+ (n=111) and ADAPT-SC+ (n=141) was assessed. • **Results:** In ADAPT, 44.6% of efgartigimod-treated participants achieved MSE vs 10.9% of placebo. Similar results were seen in ADAPT+ and ADAPT-SC. • **Conclusions:** MSE achievement was consistently observed across cycles in AChR-Ab+ participants, supporting efgartigimod's efficacy
On Demand	Real-world reduction in oral corticosteroid utilization at 1-year following efgartigimod initiation	Anna Wollenberg	• **Introduction:** This study evaluates the impact of efgartigimod (EFG) on oral corticosteroid (OCS) usage in generalized myasthenia gravis (gMG) patients. • **Methodology**: Patients using chronic OCS before EFG initiation were identified from a U.S. claims database. OCS usage was assessed at baseline, 6 months, and 12 months post-EFG initiation, with MG-ADL data integrated for outcomes. • **Results:** Among 169 patients, OCS usage significantly reduced at 6 months (13.2 mg/day, P<0.001) and 12 months (10.2 mg/day, P<0.001). MG-ADL scores improved significantly (P<0.001). • **Conclusions:** EFG significantly reduced OCS usage and improved MG-ADL scores, demonstrating its efficacy in gMG management.

NMOSD: Neuromyelitis Optica Spectrum Disorder

Notable Presentations at CONy 2025
NMOSD & Myasthenia gravis (3/3)

Date	Title	Author	Summary
On Demand	Rituximab in AChR Positive Myasthenia Gravis Patients – A Highly Controversial Topic	Michaela Tyblova	• **Introduction:** Before new drugs were introduced in 2017, rituximab was a key therapy for refractory generalized myasthenia gravis (gMG) patients who did not respond to conventional treatments. Its effectiveness in MuSK-positive patients is well-established, but its efficacy in AChR-positive patients remains unclear. • **Methodology**: A cohort of 33 gMG patients (21 men, 12 women) treated with rituximab at our center was analyzed. All patients received at least two treatment pulses. Effectiveness was measured by relapse reduction, changes in QMGS, and the need for oral immunosuppressives and intravenous immunoglobulins. • **Results:** 3 patients showed excellent outcomes with significant reductions in disease manifestation ($p \leq 0.0001$). Chronic immunosuppressive therapy was reduced or discontinued in 24 patients. The median treatment interval was 10 months, with no significant adverse effects observed. • **Conclusions:** Rituximab is effective for gMG patients with high disease activity and frequent exacerbations, but its use requires careful consideration of infection risks and comorbidities.
On Demand	Achievement of Minimal Symptom Expression in Participants Treated With Efgartigimod in ADAPT+ and ADAPT-SC+	Stojan Peric	• **Introduction:** Efgartigimod, an IgG1 antibody Fc-fragment, reduces IgG levels through neonatal Fc receptor blockade. It has been studied for generalized myasthenia gravis (gMG) treatment in ADAPT/ADAPT+ and ADAPT-SC/ADAPT-SC+ trials, with minimal symptom expression (MSE) as a proposed treatment target • **Methodology**: The proportion of acetylcholine receptor antibody-positive (AChR-Ab+) participants in ADAPT+ (n=111) and ADAPT-SC+ (n=141) who achieved MSE (MG-ADL score of 0 or 1) was assessed • **Results:** Efgartigimod-treated participants showed a higher rate of achieving MSE than placebo across all cycles. In ADAPT+, 40.5% achieved MSE, and 81% of them maintained it in ADAPT+. In ADAPT-SC, 45.5% achieved MSE in cycle 1 • **Conclusions:** Efgartigimod consistently achieved MSE in AChR-Ab+ participants across multiple cycles, demonstrating sustained clinical benefits in ADAPT/ADAPT+ and ADAPT-SC/ADAPT-SC+ studies

Notable Presentations at CONy 2025
Epilepsy & Seizure Disorders (1/5)

Date	Title	Author	Summary
On Demand	Changes in gut microbiome can be associated with abrupt seizure exacerbation in epilepsy patients	Dong Wook Kim	• **Introduction:** This study investigates whether alterations in the gut microbiome may trigger seizures, particularly during abrupt exacerbations in epilepsy patients without clear triggers. • **Methodology**: 25 adult epilepsy patients were enrolled, with fecal samples collected at admission and after seizure recovery for next-generation sequencing. Nonparametric paired t-tests and diversity analyses were performed to assess microbiome changes. • **Results:** Significant changes in microbiota composition were observed. Fusobacteria and Synergistetes decreased, while Leuconostocaceae increased. No significant changes were found in alpha or beta diversity. • **Conclusions:** Alterations in Fusobacteriaceae and Leuconostocaceae may be associated with seizure exacerbations, suggesting potential microbiome-based therapeutic approaches for epilepsy
On Demand	The effect of ventral tegmental stimulation on the course of local seizure reactions induced by hippocampal stimulation.	Maia Barbakadze	• **Introduction:** Mood disorders, particularly in temporal lobe epilepsy, are common psychiatric comorbidities. These emotional disturbances can be preictal (before seizures) or interictal (between seizures), and they can manifest both negatively and positively. The relationship between emotional disorders and epileptogenesis remains unclear due to limited studies. • **Methodology**: The influence of ventral tegmental area stimulation on convulsive reactions induced by hippocampal irritation was examined, focusing on the dopaminergic system, which plays a key role in positive emotional responses. • **Results:** Electrical stimulation of the ventral tegmental area successfully blocked convulsive reactions in the hippocampus, with the inhibition lasting for several minutes. • **Conclusions:** Ventral tegmental area stimulation may inhibit seizure activity, suggesting a potential pathway for modulating emotional disturbances in epilepsy

Notable Presentations at CONy 2025
Epilepsy & Seizure Disorders (2/5)

Date	Title	Author	Summary
On Demand	Effects of stimulation of emotiogenic central structures on the development of seizure activity of the brain	Zakaria Nanobashvili	• **Introduction:** Emotional disturbances such as anxiety, fear, depression, and aggression are common in temporal lobe epilepsy, often occurring postictally or interictally. However, the impact of emotional behavior on seizure development is not well understood. • **Methodology**: The study examined whether emotional behavior triggered by stimulating emotiogenic zones in the hypothalamus or inducing acute pain stress could alter the manifestation of generalized seizures in Wistar albino rats with stable epilepsy. • **Results:** The study found that activation of the dorsomedial hypothalamus (DMH), inducing anxiety and fear, interfered with the development of seizures initiated by the kindling procedure. • **Conclusions:** Emotional behavior, induced by hypothalamic activation, can modulate seizure activity, suggesting a complex relationship between emotional and seizure responses.
On Demand	The effect of dorsomedial hypothalamic stimulation on the course of status epilepticus induced by hippocampal stimulation	Nadezhda Khizanishvili	• **Introduction:** Patients with seizures from hyperactivation of limbic structures may be more prone to interictal emotional and behavioral disorders, significantly affecting personality. The mechanisms behind mental disorders in epilepsy remain unclear. • **Methodology**: The study investigated whether emotional behavior induced by dorsomedial hypothalamus (DMH) stimulation affects seizure development during epileptogenesis. Animals (n=8) underwent hippocampal stimulation to induce self-sustained status epilepticus, with or without simultaneous DMH stimulation during the rest period. • **Results:** DMH stimulation significantly suppressed both electrographic and behavioral manifestations of seizure activity during the hippocampal stimulation periods. • **Conclusions:** DMH activation can modulate seizure activity, providing insights into the link between emotional disturbances and epilepsy.

Notable Presentations at CONy 2025
Epilepsy & Seizure Disorders (3/5)

Date	Title	Author	Summary
On Demand	The effect of ventral tegmental stimulation on the course of generalized convulsive reactions induced by hippocampal stimulation.	Irine Bilanishvili	• **Introduction:** Emotional disturbances in epilepsy can occur ictally, periictally, preictally, and interictally, but the relationship between emotions and epileptic activity remains poorly understood due to limited clinical investigations. • **Methodology**: The study examined the effect of ventral tegmental area (VTA) stimulation on hippocampal stimulation-induced kindling and epileptogenesis in rats. • **Results:** VTA stimulation inhibited the development of kindling and the progression of epileptogenic foci induced by hippocampal irritation. This effect may be due to the potentiation of dopaminergic neurons in the VTA and possible involvement of the reticular nucleus of the thalamus in blocking seizure responses. • **Conclusions:** VTA stimulation potentially modulates seizure activity through dopaminergic and thalamic mechanisms, offering insights into the relationship between emotions and seizures.
On Demand	Interaction between Seizure and Theta Rhythm	Nini Nikabadze	• **Introduction:** Combined hippocampal and dorsomedial hypothalamus (DMH) stimulation suppresses seizures, suggesting that enhancing inhibitory processes in the hippocampus may prevent epileptiform activity. • **Methodology**: This study tested the relationship between hippocampal theta rhythm and seizure activity by inducing or suppressing theta activity. • **Results:** 1) Epileptiform discharges increased from awake to drowsiness and slow-wave sleep, but disappeared during paradoxical sleep. 2) When DMH stimulation desynchronized electrical activity instead of evoking theta rhythm, seizure activity intensified. • **Conclusions:** The findings indicate that theta rhythm antagonizes seizure activity, with its modulation of inhibitory mechanisms playing a key role in seizure suppression.

Notable Presentations at CONy 2025
Epilepsy & Seizure Disorders (4/5)

Date	Title	Author	Summary
On Demand	Effect of Negative Emotional Reactions on the Development of Seizures in a Kindling Model in Rats	Ketevan Balarjishvili	• **Introduction:** The effect of acute stress on epileptiform activity and generalized motor convulsions in the kindling model of epilepsy was investigated. • **Methodology**: Rats underwent hippocampal kindling and received nociceptive limb stimulation to induce acute stress. The impact of stress on electroencephalographic (ECoG) activity and motor convulsions was assessed at 2- and 4-weeks post-kindling. • **Results:** Painful stimulation significantly reduced both ECoG and motor manifestations of epileptic activity. The antiepileptic effect peaked 3 hours after stimulation but diminished after 6 hours. • **Conclusions:** Acute stress induced by nociceptive stimulation has a temporary antiepileptic effect, which may offer insights into stress-related modulation of seizure activity.
On Demand	Epilepsy in patients with depression after hemorrhagic stroke	Olsi Taka	• **Introduction:** Depression and epilepsy are common complications following hemorrhagic stroke. This study aimed to evaluate the risk of developing epilepsy in patients with post-stroke depression. • **Methodology**: A retrospective cohort study was conducted with hemorrhagic stroke patients diagnosed with depression between April 2022 and November 2023. Patients were followed for 12 months with quarterly seizure screenings. Depression severity was assessed using the Hamilton Depression Rating Scale (HAM-D). Statistical analysis included Chi-square tests and logistic regression. • **Results:** Among 103 patients, 19.4% developed seizures. The SSRI group had a higher seizure frequency than the SNRI group (22% vs. 11%), though the difference was not statistically significant (p=0.057). • **Conclusions:** Post-stroke depression may increase the risk of epilepsy. Larger studies are needed to assess the prevalence and the role of antidepressant medications in this relationship.

Notable Presentations at CONy 2025
Epilepsy & Seizure Disorders (5/5)

Date	Title	Author	Summary
On Demand	Suicidality in persons with epilepsy: under the radar of depression screening	Mikhail Zinchuk	• **Introduction:** This study evaluates whether separately scoring Item 4 of the NDDI-E enhances suicidality screening in people with epilepsy (PWE), as depression alone may not capture all at-risk individuals. • **Methodology**: Russian PWE completed the NDDI-E, and suicide risk was assessed using the Columbia Suicide Severity Rating Scale (C-SSRS). Statistical analyses included Fisher's exact test and Mann-Whitney test. • **Results:** Of 372 PWE, 11.3% were at risk for suicide. Scoring Item 4 separately identified 9 out of 13 suicidal patients who scored below the depression cut-off on the NDDI-E. • **Conclusions:** Scoring Item 4 separately improves suicidality screening, ensuring at-risk PWE receive appropriate psychiatric referral and treatment

Notable Presentations at CONy 2025
Stroke & Neurovascular Diseases (1/5)

Date	Title	Author	Summary
On Demand	Retrospective Cohort Study on the Impact of Anesthesia Type on TICI outcomes and Clinical Success in Mechanical Thrombectomy for Acute Ischemic Stroke: Our Experience	Eris Ranxha	• **Introduction:** The type of anesthesia used during thrombectomy for acute ischemic stroke may influence procedural and clinical outcomes. This study explores the association between anesthesia type, NIHSS scores, and reperfusion success. • **Methodology**: A retrospective cohort study of 99 patients undergoing thrombectomy between 2022 and 2024 was conducted. Data on anesthesia type, NIHSS and GCS scores, complications, and mortality were analyzed using statistical tests including logistic regression. • **Results:** Sedation was the most common anesthesia method, linked to higher successful reperfusion (TICI 2b/3). Significant improvements in NIHSS (p=0.01) and GCS scores (p=0.01) were observed. Complications occurred in 32.6%, and mortality was 7%. • **Conclusions:** Sedation was associated with favorable outcomes, and tailored perioperative strategies are essential for optimizing thrombectomy outcomes.
On Demand	Acute communicating hydrocephalus and vestibular schwannoma- a case report	Joanna Krzywania-Fifielska	• **Introduction:** Acoustic nerve tumors (schwannomas) are benign growths on the vestibulocochlear nerve, often associated with hydrocephalus due to tumor growth and mass effect. • **Methodology**: A 40-year-old woman presented with headaches, visual disturbances, muscle weakness, balance issues, and hearing loss. MRI revealed communicating hydrocephalus and a focal lesion consistent with an acoustic neuroma. • **Results:** MRI confirmed hydrocephalus and an acoustic neuroma. The patient underwent ventriculoperitoneal shunt implantation, resulting in satisfactory short- and long-term clinical outcomes. • **Conclusions:** Acoustic schwannomas may cause hydrocephalus, and ventriculoperitoneal shunting offers effective management with favorable clinical results.

Notable Presentations at CONy 2025
Stroke & Neurovascular Diseases (2/5)

Date	Title	Author	Summary
On Demand	Cases of Ischemic Stroke with Rare Mechanism Diagnosed through Histopathology of Thrombus Obtained through Thrombectomy	Eung Gyu Kim	• **Introduction:** Pathological examination of thrombus obtained through endovascular thrombectomy may provide clues to the stroke mechanism, though the mechanism cannot be directly identified solely from the pathology. • **Methodology**: his study reports two rare cases where thrombus pathology directly contributed to diagnosing the stroke mechanism. • **Results:** Case 1: A 60-year-old woman with right hemiparesis had left ICA occlusion. Pathological examination revealed tumor cells with myoid stroma, leading to the diagnosis of a cardiac myxoma. Case 2: An 81-year-old man with basilar artery occlusion had thrombus pathology indicating infective endocarditis-related stroke. Subsequent echocardiography revealed a new mitral valve mass. • **Conclusions:** Thrombus characteristics are valuable in diagnosing rare causes of acute ischemic stroke.
On Demand	Simultaneous Multifocal Intracranial Hemorrhages from Ruptured Mycotic Aneurysms – A Case Report	Kaiziahlyn Galeon	• **Introduction:** Intracranial mycotic aneurysms (IMAs) are rare lesions that often affect the distal branches of the middle cerebral artery, with spontaneous rupture leading to severe outcomes. This paper reports the first case in the Philippines involving ruptured IMAs in both anterior and posterior vasculature. • **Methodology**: A 17-year-old hypertensive male presented with multifocal ruptured aneurysms in the left P2P segment of the LPCA and cortical M4 segment of the RMCA. Histopathology revealed diffuse inflammation and thrombus. A scoring system was applied to diagnose clinically definite IMA. • **Results:** The aneurysms were surgically resected, and elevated anti-streptolysin O titer and aortic valve abnormalities were noted. • **Conclusions:** Early identification of angiographic features, such as peripheral position and fusiform shape, is crucial for timely diagnosis and improved outcomes in IMA cases.

Notable Presentations at CONy 2025
Stroke & Neurovascular Diseases (3/5)

Date	Title	Author	Summary
On Demand	Unilateral paramedian midbrain infarct with dissociation between subjective visual vertical and ocular tilt reaction: A case report	Hyun-Wook Nah	• **Introduction:** This case report describes a dissociation between subjective visual vertical (SVV) and ocular tilt reaction (OTR) in a patient with a right paramedian midbrain infarct, offering insights into vestibular and oculomotor pathway integration. • **Methodology**: A 20-year-old female with diplopia and dizziness underwent neurological examination, revealing vertical gaze limitation, convergence-retraction nystagmus, and leftward OTR. MRI confirmed a right midbrain infarct. SVV testing showed a rightward deviation, contrasting with the leftward OTR. • **Results:** SVV and OTR typically deviate in the same direction in brainstem lesions, but this dissociation may be due to selective involvement of the ipsilateral vestibulothalamic tract or Deiter's tract. • **Conclusions:** Integrating SVV and OTR findings enhances midbrain lesion diagnosis and informs rehabilitation strategies. Further research is needed.
On Demand	Cough-Induced Paresthesia Unveiled Cardioembolic Stroke and Septal Aneurysm	Sijana Demirovic	• **Introduction:** A 61-year-old female with rheumatoid arthritis developed transient vision loss after biological therapy. Further neurological symptoms, including numbness during coughing, led to the discovery of multiple lacunar ischemic strokes, suggesting an embolic cause. • **Methodology**: The patient underwent multiple diagnostic tests, including brain MRI, echocardiography with Bubble study, and transesophageal echocardiogram (TEE). Despite not completing the Valsalva maneuver, an atrial septal aneurysm (ASA) and a minor right-to-left shunt were identified. • **Results:** MRI showed multiple ischemic strokes consistent with embolic events. TEE confirmed ASA and fossa ovalis duplication, while ruling out a patent foramen ovale. • **Conclusions:** ASA may contribute to cardioembolic stroke, and the cough-induced intrathoracic pressure changes could have triggered the stroke. Anticoagulant therapy was initiated.

Notable Presentations at CONy 2025
Stroke & Neurovascular Diseases (4/5)

Date	Title	Author	Summary
On Demand	Primary Antiphospholipid Syndrome as a Cause of Cardioembolic Stroke – Therapeutic Difficulties in Reallife Settings	Cristiana Herghelegiu	• **Introduction:** Antiphospholipid syndrome (APS) can lead to ischemic stroke. Vitamin K antagonists (VKAs) are recommended for secondary stroke prevention, while direct oral anticoagulants (DOACs) like rivaroxaban and apixaban are considered ineffective. • **Methodology**: A 56-year-old male with acute ischemic stroke and a positive APS workup was treated with rivaroxaban initially. Due to non-compliance with INR testing, the treatment was switched to acenocoumarol, followed by apixaban and low-dose aspirin. • **Results:** Three months later, the patient had new ischemic lesions but no further strokes after switching to apixaban. • **Conclusions:** More research is needed to define the role of DOACs in APS-related stroke in patients unable to use VKAs.
On Demand	Diffusion-weighted MRI in Anterior Spinal Artery Stroke of the Thoracic Spinal Cord presenting with Incomplete Brown-Séquard Syndrome	JEONG HO HAN	• **Introduction:** Post-stroke reading deficits, or alexia, severely affect quality of life and cognitive function. Tailored cognitive rehabilitation aims to address these deficits by customizing interventions to individual needs, potentially improving outcomes for stroke survivors. The study aimed to develop and implement tailored cognitive rehabilitation programs for post-stroke reading deficits, assess their effectiveness, and identify the cognitive processes affected by stroke. • **Methodology**: A cohort of stroke patients with reading deficits underwent comprehensive assessments. Tailored rehabilitation programs incorporated phonological training, visual scanning, and contextual reading strategies. Progress was measured using standardized reading assessments over multiple sessions. • **Results:** Of 70 participants, 20 had persistent deficits, and 5 underwent intensive rehabilitation. All showed improvements in reading and language function at the 3-month follow-up. • **Conclusions:** Tailored rehabilitation strategies, involving structured reading exercises and functional tasks, reinforced neural pathways and boosted confidence, significantly enhancing reading abilities and quality of life.

Notable Presentations at CONy 2025
Stroke & Neurovascular Diseases (5/5)

Date	Title	Author	Summary
On Demand	Tailored Cognitive Rehabilitation For Post Stroke Reading Deficits	Sanjith Aaron	• **Introduction:** Post-stroke reading deficits, or alexia, severely affect quality of life and cognitive function. Tailored cognitive rehabilitation aims to address these deficits by customizing interventions to individual needs, potentially improving outcomes for stroke survivors. The study aimed to develop and implement tailored cognitive rehabilitation programs for post-stroke reading deficits, assess their effectiveness, and identify the cognitive processes affected by stroke • **Methodology**: A cohort of stroke patients with reading deficits underwent comprehensive assessments. Tailored rehabilitation programs incorporated phonological training, visual scanning, and contextual reading strategies. Progress was measured using standardized reading assessments over multiple sessions. • **Results:** Of 70 participants, 20 had persistent deficits, and 5 underwent intensive rehabilitation. All showed improvements in reading and language function at the 3-month follow-up. • **Conclusions:** Tailored rehabilitation strategies, involving structured reading exercises and functional tasks, reinforced neural pathways and boosted confidence, significantly enhancing reading abilities and QOL
On Demand	Post-stroke Care Planning: Bridging Shared Concerns and Diverging Needs of Stroke Survivors and Caregivers	Jong-Wook Shin	• **Introduction:** Ischemic stroke has significant long-term effects on survivors and their families. This study aimed to evaluate the shared and differing needs of ischemic stroke patients and their caregivers. • **Methodology**: A cross-sectional, qualitative survey was conducted with 255 ischemic stroke patients (modified Rankin Scale =2) and 78 caregivers. In-depth interviews were conducted during admission and at four time points up to 12 months post-discharge. Participants identified top concerns in three domains: subjective concerns, health/medical needs, and social welfare services. • **Results:** Shared priorities existed between patients and caregivers, but their third-ranked needs differed. Patients focused on economic burdens and stroke recurrence, while caregivers emphasized caregiving responsibilities. Distinctions were also noted in health/medical needs and social welfare services • **Conclusions:** This survey highlights overlapping and divergent needs, which should be integrated into post-stroke care plans. Addressing these areas will improve recovery and quality of life through community linkage programs.

Notable Presentations at CONy 2025
Headaches & Pain Management (1/4)

Date	Title	Author	Summary
On Demand	What headache types present to primary care in England? A retrospective cohort study of medical records	David PB Watson	• **Introduction:** Headache is a common issue in primary care, but the types and diagnostic accuracy of headache disorders in England are not well understood. This study aims to explore the different headache types presenting to primary care. • **Methodology**: A retrospective cohort study was conducted using the Clinical Practice Research Datalink Aurum. Adults aged ≥18 years were included if they received their first migraine or headache diagnosis between September 2012 and May 2023. Symptoms, prodromal/postdromal signs, and misdiagnoses were examined. • **Results:** The study included 476,191 migraine patients and 1,058,616 headache patients. Common symptoms were low mood, dizziness, neck pain, and fatigue. 39.5% had primary headaches, and 57.1% had undifferentiated headache. Misdiagnoses included neck pain (21.5%) and sinusitis (20.6%). • **Conclusions:** Most patients were diagnosed with undifferentiated headache, emphasizing the need for more research on diagnostic accuracy and the role of socioeconomic factors in healthcare utilization.
On Demand	A rare presentation: case study of spontaneous intracranial hypotension	Maja Bozinovska Smicheska	• **Introduction:** Spontaneous intracranial hypotension (SIH) is a rare but significant cause of daily persistent headaches, often underrecognized. Misdiagnosing SIH can lead to serious complications, but MRI has facilitated its diagnosis. • **Methodology**: A 36-year-old male with a one-month history of severe orthostatic headaches, nausea, dizziness, and neck stiffness underwent initial brain MRI, followed by spinal MRI with myelography to identify the source of cerebrospinal fluid leakage. • **Results:** The brain MRI showed pachymeningeal thickening and brainstem displacement, raising suspicion of SIH. Spinal MRI identified two dural tears and disc protrusions, confirming idiopathic SIH type I. Conservative management was chosen, and symptoms spontaneously improved. • **Conclusions:** Early recognition of SIH and multimodal neuroimaging are crucial for accurate diagnosis and management, preventing complications and avoiding unnecessary procedures.

Notable Presentations at CONy 2025
Headaches & Pain Management (2/4)

Date	Title	Author	Summary
On Demand	Prevalence and Prognostic Factors of Post-SAH Headache: An 18-Month Cohort Study	Oneda Cibuku	• **Introduction:** While advancements in diagnosis and care have reduced Subarachnoid hemorrhage (SAH) mortality, long-term complications like post-SAH headache (PSH), cognitive dysfunction, and emotional disturbances significantly impact quality of life. This study aims to evaluate the prevalence, characteristics, and prognostic factors of chronic PSH over an 18-month follow-up in 47 patients. • **Methodology**: A prospective observational study was conducted, analyzing demographic factors, acute complications, and long-term cognitive and emotional disturbances using SPSS 25.0 • **Results:** PSH prevalence declined from 55.3% at 3 months to 25.5% at 18 months. Chronic PSH was linked to cognitive dysfunction and emotional disturbances. Vasospasm severity and Fisher grade predicted PSH risk. • **Conclusions:** Chronic PSH affects SAH survivors' quality of life, requiring long-term monitoring and personalized interventions.
On Demand	Risk evaluation of OSA in Cluster Headache Patients using the STOP-bang questionnaire	Soo-Jin Cho	• **Introduction:** This study aimed to analyze the characteristics of cluster headache patients in relation to their risk of obstructive sleep apnea (OSA) using the STOP-Bang screening questionnaire. • **Methodology**: A retrospective analysis was conducted with cluster headache patients enrolled between January 2019 and November 2022. The STOP-Bang screening was used to assess OSA risk, and data were analyzed based on the risk levels. • **Results:** Of 135 patients, 105 underwent STOP-Bang screening. The cohort was predominantly male (84.8%), with higher body mass index and smoking rates in the moderate- and high-risk OSA groups. There were no differences in cluster headache characteristics based on the STOP-Bang score. • **Conclusions:** STOP-Bang screening is effective in identifying OSA comorbidities in cluster headache patients, highlighting its value in clinical practice for detecting related health issues.

Notable Presentations at CONy 2025
Headaches & Pain Management (3/4)

Date	Title	Author	Summary
On Demand	New headache after endacarotidectomy	Stavri Llazo	• **Introduction:** Headaches following carotid endarterectomy (CEA) are common but not well understood. This study aimed to evaluate the characteristics of post-CEA headaches. • **Methodology**: A prospective study was conducted with 478 CEA patients between January and July 2024, assessing headache incidence, type, and risk factors. • **Results:** Headache incidence was 42.5%, mostly ipsilateral to CEA. Pressure-type headaches were the most common (85.2%), usually mild to moderate and self-limiting. Severe throbbing headaches with migraine-like qualities were linked to hyperperfusion syndrome. • **Conclusions:** Post-CEA headaches are typically mild and self-limiting, but severe headaches in patients with high stenosis should be evaluated for hyperperfusion syndrome or cerebral infarction.
On Demand	Cortical Gray Matter Thickness Differences in Chronic Migraine Patients With and Without Medication Overuse Headache	Noboru Imai	• **Introduction:** Prior studies have found variations in cortical thickness in migraine patients. This study aims to evaluate differences in cortical thickness between chronic migraine (CM) patients with and without medication overuse headache (MOH). • **Methodology**: Twenty-two CM patients with MOH and 13 without MOH underwent 3T MRI scans. T1-weighted structural images were acquired, and cortical thickness was analyzed using surface-based morphometry (FreeSurfer software). • **Results:** Significant differences in cortical thickness were observed between CM patients with and without MOH. MOH patients had increased cortical thickness in nine regions (e.g., anterior cingulate cortex) and decreased thickness in six regions (e.g., entorhinal cortex). • **Conclusions:** MOH is associated with distinct cortical changes in CM patients, providing insight into the neural mechanisms underlying both conditions.

Notable Presentations at CONy 2025
Headaches & Pain Management (4/4)

Date	Title	Author	Summary
On Demand	Effects of Keto Diet in chronic migraine Effects of Keto Diet in chronic migraine	Brunilda Zllami	• **Introduction:** Nutrition plays a significant role in the course of migraine, with certain foods, timing, and amounts affecting migraineurs. The mechanism is likely linked to reducing inflammation. This study investigates the effect of a ketogenic diet on chronic migraine patients. • **Methodology**: A prospective study enrolled 23 chronic migraine patients (18-65 years, 69% females) over three months. Participants followed a keto diet with a 3:1 ratio of fat to carbohydrates and protein. Evaluation included both nutritional and neurological assessments. • **Results:** The ketogenic diet significantly reduced headache frequency (12.8 ± 9.2 vs. 6.8 ± 8.5, p=0.001), intensity (17.2 ± 8.3 vs. 8.7 ± 6.2, p=0.001), duration (23.4 ± 14.3 vs. 8.2 ± 11.3, p=0.001), and acute medication use (10.2 ± 9.3 vs. 4.8 ± 7.9, p=0.001). Additionally, weight, BMI, and body fat mass decreased significantly. • **Conclusions:** The ketogenic diet improved headache frequency, intensity, and duration in chronic migraine patients, suggesting it may be an effective non-pharmacological intervention with positive effects on body composition.
On Demand	Evaluation of Acute Headache in a General Hospital: Red Flags and Practical Challenges – A Retrospective Review from Emergency Department "Dr. Ivo Pedišić Sisak"	Gabrijela Pejkic	• **Introduction:** Headaches are common in emergency departments (ED) and can range from benign to life-threatening conditions. Differentiating between these requires a structured approach, especially in resource-limited settings with limited diagnostic services. • **Methodology**: A retrospective review of 441 headache cases in a general hospital ED identified 189 cases meeting inclusion criteria. A framework based on red flags was used to identify life-threatening conditions. • **Results:** 70% of cases were primary headaches, with 30% secondary headaches. The algorithm led to a 23% reduction in unnecessary imaging without compromising safety. • **Conclusions:** A structured diagnostic approach improves efficiency and safety in headache management in resource-limited settings. Further prospective studies are needed to refine the findings.

Notable Presentations at CONy 2025
Neurodegenerative Diseases & Other Neuropathies (1/5)

Date	Title	Author	Summary
On Demand	Study of levels of oxidative stress and inflammation in rat brain tissue during Escherichia coli lipopolysaccharide-induced endotoxemia: modulatory effect of lycopene	Dusan Sokolovic	• **Introduction:** Lipopolysaccharide (LPS) causes brain tissue damage by inducing excessive oxidative stress and inflammation. Lycopene (LYC), a potent antioxidant, may mitigate these effects. • **Methodology**: Twenty-eight Wistar Albino rats were divided into four groups: Control, LYC (50 mg/kg), LPS (10 mg/kg), and LPS+LYC. Oxidative stress and inflammation markers (MDA, PCC, GSH, NF-kB, IL-6, TNF-a) were assessed. • **Results:** LPS increased oxidative stress and inflammation markers, while LYC supplementation reduced these levels and normalized inflammation markers in the LPS+LYC group. • **Conclusions:** Lycopene shows significant antioxidant and anti-inflammatory effects, suggesting its potential in preventing brain damage during endotoxemia.
On Demand	"Carpal Tunnel Syndrome in Patients with End-Stage Renal Disease: A 24-Month Follow-Up Study of 24 Cases"	Kjanda Elpenoria	• **Introduction:** This study examines the prevalence, progression, and outcomes of Carpal Tunnel Syndrome (CTS) in end-stage renal disease (ESRD) patients undergoing hemodialysis over 24 months. • **Methodology**: A prospective cohort study of 24 ESRD patients diagnosed with CTS through clinical assessment and nerve conduction studies. Data on demographics, dialysis duration, and symptoms were recorded, with follow-up at 6, 12, and 24 months. • **Results:** 50% reported severe hand pain at baseline. 33.3% underwent carpal tunnel release surgery, showing significant improvement. A correlation was found between dialysis duration and CTS severity. • **Conclusions:** Early diagnosis and surgical intervention are critical for managing CTS in ESRD patients. Routine screening is recommended in this high-risk population.

Notable Presentations at CONy 2025
Neurodegenerative Diseases & Other Neuropathies (2/5)

Date	Title	Author	Summary
On Demand	Charcot-Marie-Tooth Disease Type 1A: A Case Study Highlighting Diagnostic Challenges and Genetic Implications in a Family with a History of Polyneuropathy	Ketevani Kobuladze	• **Introduction:** Charcot-Marie-Tooth (CMT) disease is a hereditary neuropathy that can be challenging to diagnose due to overlapping symptoms with other neuropathies and hereditary spastic paraplegiaplus syndromes. Genetic testing is crucial for early diagnosis, particularly in families with a history of similar symptoms. • **Methodology**: A 54-year-old male with a history of lower extremity weakness and sensory disturbance underwent EMG and MRI, which confirmed sensorimotor polyneuropathy and lacunar gliosis. Genetic testing was performed to investigate the cause of the progressive neuropathy. • **Results:** Genetic testing revealed a duplication in the PMP22 gene, confirming a diagnosis of CMT Type 1A, consistent with the symptoms in the patient and his sons. • **Conclusions:** Genetic analysis is critical in diagnosing hereditary neuropathies like CMT, particularly in patients with a family history, enabling early diagnosis and management strategies.
On Demand	Peripheral neuromotor system disorders in Alzheimer`s disease	Elene Nebadze	• **Introduction:** Degenerative diseases, particularly Alzheimer's disease, often involve cognitive dysfunction and peripheral neuromotor abnormalities. This study aims to explore the relationship between peripheral nerve function and Alzheimer's disease to investigate the potential of using peripheral nerve lesions as biomarkers for Alzheimer's. • **Methodology**: The study examined 10 patients with mild cognitive dysfunction, 4 with Alzheimer's disease, and 10 healthy controls (ages 60-80). Nerve conduction velocity, amplitude, and latency of responses in multiple peripheral nerves were measured using electromyography. • **Results:** Slower conduction velocities in motor fibers of the median and peroneal nerves were more pronounced in Alzheimer's patients than those with mild cognitive dysfunction • **Conclusions:** A decrease in peripheral nerve conduction velocity correlates with cognitive decline. Further research is needed to determine if peripheral nerve function could serve as an early diagnostic marker for Alzheimer's disease.

Notable Presentations at CONy 2025
Neurodegenerative Diseases & Other Neuropathies (3/5)

Date	Title	Author	Summary
On Demand	Guillain-Barré syndrome with five long-interval episodes and scoping review on recurrent Guillain-Barré syndrome	Jong Seok Bae	• **Introduction:** Recurrent Guillain-Barré syndrome (RGBS) is rare, occurring in 2-6% of GBS patients, with unclear clinical features and pathophysiology. This study presents a case of RGBS with five recurrences and a scoping review. • **Methodology**: An 81-year-old woman presented with the fourth relapse, showing distal leg weakness, paresthesia, IgM anti-GM1 positivity, and demyelinating neuropathy. A scoping review focused on cases of RGBS with clinically definite relapses. • **Results:** Nine cases with 42 relapses were identified, showing stereotypical symptoms, anti-ganglioside antibodies, and rapid IVIG response. • **Conclusions:** Anti-ganglioside antibodies likely play a key role in RGBS, with specific peripheral nervous system vulnerabilities. This study enhances understanding of RGBS immunological mechanisms.
On Demand	Viral polyneuropathy in an immunocompromised person: A case report	Meri Papajani	• **Introduction:** Viral infections, especially VZV, can cause nervous system complications, including polyneuropathies, particularly in immunocompromised patients. • **Methodology**: A 76-year-old woman with a history of breast cancer and treatment presented with dysphagia, dysphonia, facial asymmetry, and difficulty walking. Neurological and laboratory findings were evaluated, including CSF analysis, MRI, and electrophysiological studies. • **Results:** The patient had leukopenia, anti-VZV positivity, elevated protein in CSF, and bilateral viral pneumonia. Electrophysiological studies suggested demyelinating neuropathy with axonal degeneration. Treatment with corticosteroids, acyclovir, and IV immunoglobulin was initiated. • **Conclusions:** Early recognition and prompt management of viral infections in immunocompromised patients are crucial for preventing rapid progression and severe outcomes.

Notable Presentations at CONy 2025
Neurodegenerative Diseases & Other Neuropathies (4/5)

Date	Title	Author	Summary
On Demand	Atypical Location of Diffuse Large B-Cell Lymphoma: A Case Report	Maria Fernanda Mercado-Torres	• **Introduction:** Primary central nervous system lymphoma (PCNSL), especially diffuse large B-cell lymphoma (DLBCL), often affects supratentorial regions. Primary skull base lymphoma is rare, presenting with symptoms like headache, diplopia, and cranial nerve palsies. • **Methodology**: A 42-year-old female with rightward tongue deviation and diplopia underwent brain MRI, revealing an infiltrative lesion in the clivus. A transsphenoidal resection was performed, and histopathology confirmed DLBCL. • **Results:** MRI showed lesion involvement in the clivus, petrous apex, and Meckel's cave. Histopathology confirmed DLBCL. • **Conclusions:** Skull base lymphoma, particularly with cranial nerve involvement, should be considered in the differential diagnosis of infiltrative clival lesions.
On Demand	Diabetic Polyneuropathy and vitamin D, correlations to be set	Ermal Kurmaku	• **Introduction:** Vitamin D hypovitaminosis has been linked to peripheral nervous system dysfunction, with varying findings regarding its correlation with nerve conduction velocities (NCVs). Painful diabetic neuropathy is a subgroup under scrutiny for such effects. • **Methodology**: Forty type II diabetic patients (ages 50-60, 20 men, 20 women) with diabetic neuropathy (≥5 years) were tested with electroneurography and completed a Visual Analog Scale (VAS) assessment. Plasma vitamin D levels were measured and correlated with VAS scores. • **Results:** Severe vitamin D deficiency (4-13 ng/ml) correlated with higher VAS scores (r=0.7) but did not affect NCVs. NCV decrease was more apparent in males. • **Conclusions:** Vitamin D levels should be considered in the assessment of painful diabetic neuropathy, suggesting routine checks for early intervention.

Notable Presentations at CONy 2025
Neurodegenerative Diseases & Other Neuropathies (5/5)

Date	Title	Author	Summary
On Demand	Cognitive impairment and quality of life in sensorineural deafness	Olga Dubenko	• **Introduction:** Sensorineural hearing loss (SNHL) impacts speech understanding and quality of life, potentially leading to disability. This study assesses cognitive dysfunction in acute and chronic SNHL. • **Methodology**: 41 patients (mean age 48.05±16.9 years) with SNHL due to acoustic trauma or vascular injury were assessed using neurological evaluations, MoCA testing, and quality of life measures. • **Results:** MoCA scores were significantly lower in chronic SNHL (23.13±3.32 vs. 25.42±2.8 in acute SNHL), with notable deficits in attention and memory ($p<0.05$). Chronic SNHL also showed greater decline in quality of life. • **Conclusions:** SNHL contributes to cognitive dysfunction, particularly in attention and memory, with more severe effects in chronic cases.

Notable Presentations at CONy 2025
Other Clinical and Diagnostic Studies (1/6)

Date	Title	Author	Summary
On Demand	Phase 3 Trial Designs Evaluating Riliprubart, a C1s-Complement Inhibitor, in Chronic Inflammatory Demyelinating Polyneuropathy	Richard A. Lewis	• **Introduction:** Standard therapies for chronic inflammatory demyelinating polyneuropathy (CIDP) show variable efficacy and side effects. Riliprubart, a humanized IgG4-monoclonal antibody, selectively targets activated-C1s, with promising Phase 2 results. • **Methodology**: Two Phase 3 trials—MOBILIZE (SoC-refractory participants) and VITALIZE (IVIg responders with residual disability)—are being conducted. Both trials have 48-week periods, with a 24-week double-blind phase (Part-A) followed by a 24-week open-label phase (Part-B). Participants are randomized to receive riliprubart or placebo. • **Results:** Recruitment is ongoing. Primary endpoint is ≥1-point decrease in INCAT score at Week-24 • **Conclusions:** These trials will evaluate riliprubart's efficacy and safety in CIDP subpopulations with high unmet need.
On Demand	Phase 2 Efficacy and Safety of Riliprubart, a C1s-Complement Inhibitor, in Chronic Inflammatory Demyelinating Polyneuropathy	Hans-Peter Hartung	• **Introduction:** Riliprubart, a humanized IgG4-monoclonal antibody, inhibits activated-C1s in the classical complement pathway, showing promise for chronic inflammatory demyelinating polyneuropathy (CIDP). • **Methodology**: A global, multicenter, Phase-2, open-label trial evaluated riliprubart across SOC-Treated, SOC-Refractory, and SOC-Naïve groups. Part-A (24 weeks) assessed relapse rates and responses, while Part-B (52 weeks) evaluated safety and efficacy durability. Exploratory endpoints included additional efficacy measures and neurofilament-light chain levels • **Results:** In Part-A, 88% of SOC-Treated participants improved or remained stable, and 50% of SOC-Refractory participants responded. Common adverse events included headache, fatigue, and nasopharyngitis. Sustained complement inhibition and NfL reduction were observed. • **Conclusions:** Preliminary results indicate a favorable benefit:risk profile, supporting further Phase-3 investigation.

Notable Presentations at CONy 2025
Other Clinical and Diagnostic Studies (2/6)

Date	Title	Author	Summary
On Demand	Efficacy and Safety of Efgartigimod PH20 Subcutaneous in Chronic Inflammatory Demyelinating Polyneuropathy: Results of ADHERE/ADHERE+	Filippo Rocca	• **Introduction:** Efgartigimod, an IgG1 antibody Fc fragment, reduces pathogenic IgG autoantibody levels by blocking the neonatal Fc receptor. This study evaluates its efficacy and safety in chronic inflammatory demyelinating polyneuropathy (CIDP). • **Methodology**: The ADHERE trial (double-blinded, placebo-controlled) enrolled participants with active CIDP and assessed efgartigimod PH20 SC 1000mg. Stage A focused on clinical improvement, while stage B assessed relapse risk. Participants with clinical deterioration could enter the ADHERE+ extension trial. • **Results:** In stage A, 66.5% showed confirmed clinical improvement. Efgartigimod significantly reduced relapse risk in stage B (HR: 0.394). The safety profile remained consistent over 137.42 patient-years. • **Conclusions:** Efgartigimod PH20 SC effectively reduces relapse risk in CIDP, with a favorable safety profile across trials.
On Demand	Fucoxanthin prevents Aβ-induced cognitive dysfunction via RAGE-dependent NF-κB signaling pathway	Mira Jun	• **Introduction:** Alzheimer's disease (AD) involves cognitive dysfunction due to neuronal death, with β-amyloid (Aβ) accumulation triggering microglial activation and inflammation. The receptor for advanced glycation end-products (RAGE) is identified as a key mediator in the NF-κB pathway, exacerbating neuroinflammation in AD. • **Methodology**: Behavioral tests (passive avoidance, Y-maze, Morris water maze) assessed cognitive function. Immunohistochemistry and western blotting were used to analyze Aβ accumulation, microglial activation, synaptic loss, and RAGE/NF-κB-related proteins. • **Results:** Fucoxanthin (100 or 200 mg/kg) improved Aβ-induced cognitive dysfunction, inhibited microglial activation, and suppressed NF-κB-driven inflammation by targeting RAGE. • **Conclusions:** Fucoxanthin mitigates Aβ-induced cognitive impairment and inflammation via the RAGE/NF-κB pathway, presenting potential as an anti-AD agent.

Notable Presentations at CONy 2025
Other Clinical and Diagnostic Studies (3/6)

Date	Title	Author	Summary
On Demand	Optimizing Infliximab Dosing for Paradoxical Neurotuberculosis: A Case Report on Treatment Challenges and Decision-Making	Salika Kumari Karunanyaka	• **Introduction:** Neurotuberculosis, a severe CNS infection, can involve paradoxical reactions despite appropriate treatment. This case report highlights the challenges in managing such reactions and explores the role of infliximab therapy. • **Methodology**: : A 21-year-old HIV-negative female with disseminated TB developed right visual loss due to a progressing suprasellar tuberculoma. Despite high-dose IV Dexamethasone, vision worsened, prompting treatment with infliximab (6mg/kg at 0,2,6,12 weeks) alongside anti-TB therapy for 18 months. After three months, her vision improved, and tuberculoma regressed. • **Conclusions:** Paradoxical TB reactions can be resistant to steroids. Infliximab, a TNF-alpha inhibitor, was effective in this case and may offer an alternative when steroids fail, though optimal dosing and long-term outcomes need further study.
On Demand	How could diagnose MOGAD without MRI?	Radu Iulian Gabriel	• **Introduction:** The role of HLA in diagnosing MOGAD in patients with characteristic clinical features, MOGAD IgG antibodies, and MRI contraindications remains unclear. • **Methodology**: A 23-year-old woman presented with ocular pain followed by monocular vision loss, later developing progressive right hemiparesis. Due to a history of lumbar scoliosis requiring a ZODIAC implant, she was MRI-incompatible. Brain CT scan was normal. MS, NMOSD, and other CNS disorders were ruled out via clinical signs and laboratory tests. AQP4 IgG was negative, but anti-MOG antibodies were positive. HLA testing confirmed MOGAD (HLA-DRB1 *15:02:01). • **Results:** Despite MRI contraindication, the diagnosis of MOGAD was confirmed through clinical, immunological, and genetic testing. • **Conclusions:** In cases where MRI is unavailable or contraindicated, HLA profiling may assist in diagnosing MOGAD. Larger cohort studies are needed for clearer differential diagnosis of demyelinating disorders.

Notable Presentations at CONy 2025
Other Clinical and Diagnostic Studies (4/6)

Date	Title	Author	Summary
On Demand	"Tele-CO-OP: A Feasible and Effective Telerehabilitation Approach for Enhancing Participation in Chronic Acquired Brain Injury Survivors"	Yafit Gilboa	• **Introduction:** Acquired brain injury (ABI), including stroke and traumatic brain injury (TBI), results in long-term participation restrictions. This highlights the need for accessible telerehabilitation services to enhance community integration. This research aimed to explore multidimensional participation in adults with chronic ABI and develop the tele-CO-OP protocol based on the Cognitive Orientation to Daily Occupational Performance approach to improve participation. • **Results: Phase 1 Results:** Twenty-five adults with chronic ABI reported challenges in both subjective and objective participation, with variations depending on disability level, especially in social and leisure activities. There was partial alignment between subjective importance and objective limitations. **Phase 2 Results:** A pilot RCT with 16 participants showed significant improvements in participation, executive function, and self-efficacy. Medium to large effect sizes were observed, with improvements maintained at follow-up. • **Conclusions:** Tele-CO-OP is feasible and demonstrates preliminary efficacy in improving participation for adults with chronic ABI. Larger controlled studies are needed to confirm its effectiveness.
On Demand	Prevalence of Sleep Disorders in Adults with Attention Deficit Hyperactivity Disorder (ADHD) attending specialist clinic in Northwest Ireland	Dimitrios Adamis	• **Introduction: :** Sleep disorders are prevalent in ADHD, but research on adults with ADHD is limited compared to children. This study aimed to: a) determine the proportion of adults with ADHD suffering from sleep disorders, b) identify the most common co-occurring sleep disorders, and c) explore the relationship between ADHD subtype and sleep disorders. • **Methodology**: 132 adults with ADHD were assessed using the Pittsburgh Sleep Quality Index (PSQI) and the Sleep Disorders Symptoms Checklist 17, screening for insomnia, obstructive sleep apnoea (OSA), restless legs syndrome (RLS), circadian rhythm disorders, narcolepsy, and parasomnias. • **Results:** 91.7% had reduced sleep quality, with insomnia (58.3%), OSA (43.9%), and RLS (65.4%) being the most common disorders. Evening circadian type was found in 75.5%. The combined ADHD subtype was significantly linked to RLS and parasomnias. • **Conclusions:** Adults with ADHD exhibit a high prevalence of sleep disorders, with the combined subtype more likely to experience RLS and parasomnias, potentially due to circadian rhythm disruptions.

Notable Presentations at CONy 2025
Other Clinical and Diagnostic Studies (5/6)

Date	Title	Author	Summary
On Demand	Contrast-Enhanced Ultrasound for Post-Stenting Carotid Artery Evaluations: Visualizing Neovascularization and Advancing Restenosis Insights	Dae-Hyun Kim	• **Introduction:** Carotid artery stenting (CAS) is an alternative treatment for carotid artery stenosis, with traditional post-stenting assessments relying on angiography and Doppler ultrasound. This study explores the potential of contrast-enhanced ultrasound (CEUS) to improve diagnostic accuracy and provide insights into neointima and atherosclerotic plaques in restenosis. • **Methodology**: Five patients with carotid artery restenosis, on antiplatelet agents and statins, underwent CEUS using Sonovue®. The technique visualized the stented segment, neointima, and restenosis region, including neovascularization. • **Results:** Intense neovascularization was observed in all patients, with three showing it in both neointima and plaque regions. CEUS reclassified stenosis severity in two patients from mild to moderate. • **Conclusions:** CEUS enhances post-stenting evaluations by visualizing vascular integrity, detecting neovascularization, and refining assessments of carotid artery restenosis, revealing potential mechanisms and complications.
On Demand	Baicalin Protects Neurons from Oxidative Stress and Apoptosis Induced by Glutamate Excitotoxicity in HT22 Cells	Phil-Ok Koh	• **Introduction:** Baicalin, a flavonoid from Scutellaria baicalensis, exhibits anti-inflammatory, antioxidant, and neuroprotective effects. Glutamate induces excitotoxicity, damaging nerve cells. This study investigates baicalin's antioxidant and anti-apoptotic effects on glutamate-exposed neuronal cells. • **Methodology**: Mouse hippocampal HT-22 cells were pretreated with baicalin (10, 30, 50 μM) 1 hour before glutamate exposure (5 mM). Oxidative stress was assessed by measuring reactive oxygen species (ROS) and lipid peroxidation (LPO). Western blot and immunocytochemistry were used to evaluate bcl-2, bax, and caspase-3 expression. • **Results:** Baicalin attenuated glutamate-induced neuronal damage, preserving cell shape and viability. It reduced ROS, LPO, and the expression of bax and caspase-3 while increasing bcl-2 levels in a dose-dependent manner. • **Conclusions:** Baicalin exerts neuroprotective effects by preventing oxidative stress and inhibiting the apoptotic pathway, suggesting its potential for treating glutamate-induced neuronal toxicity.

Notable Presentations at CONy 2025
Other Clinical and Diagnostic Studies (6/6)

Date	Title	Author	Summary
On Demand	Safer and More Effective Thrombolytics: Brnoteplase Through Rational Mutagenesis.	Jan Mičan	• **Introduction:** Intravenous thrombolytics, such as alteplase, are widely used to treat acute ischemic stroke but offer limited recanalization rates (10-40%) and carry the risk of symptomatic intracerebral hemorrhage. The STROKE Brno consortium developed novel variants of alteplase using structural bioinformatics, enzyme mining, and ancestral sequence reconstruction to improve thrombolytic efficiency and reduce complications. • **Methodology**: In vitro and in vivo studies tested plasminogen activation, fibrinolysis, inhibition resistance, and clot penetration of the variants. The most promising mutant, Brnoteplase, was tested in arterial occlusion flow and rat stroke models. • **Results:** Brnoteplase showed 400% increased inhibition resistance, 80-fold higher fibrin selectivity, and improved clot penetration. In vivo, Brnoteplase (2.5 mg/kg) achieved 87% recanalization compared to 68% with tenecteplase and 21% with alteplase. Hemorrhage incidence was lower in Brnoteplase (15%) versus tenecteplase (21%) and alteplase (35%). • **Conclusions:** Brnoteplase's improved efficacy and safety profile make it a promising candidate for clinical use in acute ischemic stroke treatment.

Notable Presentations at CONy 2025
Miscellaneous (1/2)

Date	Title	Author	Summary
On Demand	From Amyotrophic Lateral Sclerosis to Polyneuropathy: A Nerve-Wracking Relationship	Ana-Maria Mandescu	• **Introduction:** Amyotrophic lateral sclerosis (ALS) is a neurodegenerative disease affecting motor neurons, with a prevalence of 4.5 per 100,000. Chronic polyneuropathy is common in the general population, with a prevalence of up to 7%. Recent studies suggest possible shared risk factors and molecular mechanisms between ALS and axonal polyneuropathy • **Methodology**: A cross-sectional study was conducted using electronic medical records at Colentina Clinical Hospital, Romania. Patients diagnosed with ALS (ICD-10 G12.2) who underwent at least one electroneuromyographic study were included • **Results:** Out of 50 patients (mean age 59.7 years), 7 had chronic axonal polyneuropathy (14%), including 4 with other explanations (e.g., diabetes) and 3 with unexplained polyneuropathy, including two with flail arm/leg onset and one with a monogenic form • **Conclusions:** Chronic axonal polyneuropathy could be part of the ALS disease spectrum. Understanding the link between these conditions may lead to new research and treatment avenues
On Demand	From Perception to Plate: Exploring Mediterranean Diet and Dementia Prevention Through the Health Belief Model	Ofer Emanuel Edelstein	• **Introduction:** Dementia is an incurable condition but can be prevented through healthy behaviors, particularly adherence to the Mediterranean diet (MD). This study aimed to assess MD adherence in individuals aged 50+ in Israel and explore the relationship with Health Belief Model variables • **Methodology**: A cross-sectional online survey was conducted in 2022-2023 with 512 Israel-born participants aged 50 and above. MD adherence was measured using the I-MEDAS, and cognitive perceptions were assessed with the Motivation to Change Lifestyle and Health Behaviors for Dementia Risk Reduction questionnaire • **Results:** The average MD adherence score was 9.35/17. Multivariate regression revealed that perceived severity (β=-.204, $p<.001$) and cues to action (β=.194, $p<.001$) were significant predictors, along with gender (β=.192, $p<.001$) and low income (β=-.156, $p<.05$) • **Conclusions:** Health cognitions, particularly perceived severity and cues to action, play a significant role in MD adherence. These findings can inform intervention programs targeting different populations to enhance dementia prevention strategies

Notable Presentations at CONy 2025
Miscellaneous (2/2)

Date	Title	Author	Summary
On Demand	Adolescence Onset Primary Coenzyme Q10 Deficiency - 4: A Case Report	Ivan Barbov	• **Introduction:** Primary coenzyme Q10 deficiency - 4 (COQ10D4) is an autosomal recessive disorder marked by cerebellar ataxia, exercise intolerance, and variable severity, including seizures and mild cognitive impairment • **Methodology**: This case report describes the adolescence onset of COQ10D4 in two brothers from North Macedonia, both presenting with neurological symptoms and a genetic diagnosis of homozygous COQ8A gene mutations • **Results:** Both brothers exhibited cerebellar ataxia, head tremor, muscle weakness, and pseudohypertrophy of the calves. Brain MRI showed white matter loss, cerebellar atrophy, and corpus callosum thinning. Electromyography and elevated serum creatine kinase levels confirmed the diagnosis • **Conclusions:** Early detection of COQ8A mutations is crucial for timely diagnosis and management. This case report aids healthcare professionals in recognizing and diagnosing COQ10D4 more effectively
On Demand	Spinal Dural AVF: From Clinical Suspicion to Endovascular Cure - A Case Report	Altin Kuqo	• **Introduction:** Spinal dural arteriovenous fistulas (SDAVFs) are rare vascular pathologies of the spinal cord, commonly found in the thoracolumbar region, leading to venous hypertension, spinal cord dysfunction, and challenges in diagnosis due to overlapping symptoms with other neurological conditions. • **Methodology**: A 61-year-old male with progressive difficulty walking, lower limb numbness, and urinary retention was diagnosed with a right-sided dural arteriovenous fistula at L2 via medullary angiography after MRI showed medullary edema (T7–L1) and perimedullary vessels. Endovascular embolization led to significant clinical improvement. • **Results:** Differential diagnosis included spinal stenosis and polyneuroradiculopathy. MRI and angiography confirmed SDAVF, with catheter angiography as the gold standard. • **Conclusions:** Early suspicion, MRI, and angiography are crucial for diagnosing SDAVFs, with endovascular treatment proving effective in improving patient outcomes.

Key Industry Sponsored Symposia/ Sessions Information

CONy 2025 Key Industry Sponsored Symposia/ Sessions Information (1/2)

Date	Sponsor	Title
20 Mar 2025	Sanofi	Spotlight on CIDP: Evolving Perspectives on Disease and the Treatment Landscape
		Complement's role in the nervous system
		Bridging the Gap: addressing unmet needs in CIDP
		CIDP and emerging targets and treatments
20 Mar 2025	argenx	Redefining generalized Myasthenia Gravis: transforming outcomes with precision medicine.
		Real World Experience with Vyvgart in Slovenia: initiation and maintenance treatment strategies

CONy 2025 Key Industry Sponsored Symposia/ Sessions Information (2/2)

Date	Sponsor	Title
21 Mar 2025	Sanofi	Transforming Care: New Frontiers in Detecting and Managing Progression in Multiple Sclerosis
		The Biological Cascade of Progressive MS
		Unmasking the Complexities of non-Relapsing Secondary Progressive Multiple Sclerosis
21 Mar 2025	Britannia Pharmaceuticals	Supporting patients throughout their Parkinson's disease journey
		Apomorphine – a device-aided-therapy (DAT) option before Parkinson's disease is advanced
		Intrajejunal levodopa–entacapone–carbidopa (LECIGON®) infusion – a well-established therapy

Noteworthy AI / ML presentations at CONy 2025

Themes from key AI / ML presentations at CONy 2025 (1/2)

- **CONy 2025 will showcase how AI and machine learning are increasingly transforming neurology by enabling early detection of cognitive disorders, optimizing rehabilitation, and enhancing diagnostic accuracy, ultimately improving patient outcomes and treatment efficiency**
- Check out the key AI / ML themes at CONy 2025 below:
- **AI-Driven Early Detection of Cognitive Disorders:**
  - AI algorithms used to detect early signs of dementia, improving intervention by analyzing digital behavioral patterns and surpassing traditional diagnostic methods
- **AI-enhanced tele-rehabilitation for Chronic ABI:**
  - AI-powered telerehabilitation, such as Tele-CO-OP, demonstrated effectiveness in improving participation, self-efficacy, and QOL for adults with chronic acquired brain injuries
- **AI in Post-Stroke Neurorehabilitation & Neurological Diagnosis:**
  - AI optimizes post-stroke rehabilitation by personalizing treatment plans and is also poised to replace traditional neurological exams, enhancing diagnostic efficiency with real-time insights

Noteworthy AI / ML presentations at CONy 2025

Notable Presentations at CONy 2025
AI / ML

Date	Title	Author	Summary
On Demand	Beyond Traditional Screening: AI-Driven Early Detection of Cognitive Disorders and Dementia	László Varga	• **Introduction**: Diagnosing dementia in Hungary is a slow and inefficient process, with no developed systems for screening or AI algorithms to identify early signs based on digital behavioral patterns • **Methodology**: Two PILOT studies were conducted (2021-2024), analyzing 42,711 data points from 259 participants. The tests included SDMT, Stroop, and memory/word games. A unified task evaluation system was established to facilitate cross-test comparisons, grouping participants into presumed dementia patients, diagnosed MS patients, and a normal population • **Results:** The study showed significant differences between dementia/MS groups and the normal population, illustrated by density functions. Early signs of dementia appeared in the 20s-30s, with clearer detection by the 40s-50s • **Conclusions:** The PreDem platform, utilizing AI for risk analysis, reliably detects early dementia signs, surpassing traditional diagnostic methods. Early diagnosis enables timely treatment, slowing disease progression and improving quality of life
On Demand	"Tele-CO-OP: A Feasible and Effective Telerehabilitation Approach for Enhancing Participation in Chronic Acquired Brain Injury Survivors"	Yafit Gilboa	• **Background:** Acquired brain injury (ABI), including stroke and traumatic brain injury (TBI), often results in long-term participation restrictions, underlining the need for accessible telerehabilitation services for community integration • **Methodology:** Phase 1 involved 25 adults (≥6 months post-ABI) assessed using the Canadian Occupational Performance Measure (COPM) and Mayo-Portland Adaptability Inventory (MPAI-4) to evaluate subjective and objective participation. Phase 2 was a pilot RCT with 16 participants, evaluating tele-CO-OP's efficacy using COPM, PQRS, MPAI-4, executive function, self-efficacy, and caregiver burden • **Results:** Participants showed participation challenges, with varied profiles by disability level. Tele-CO-OP led to significant improvements in participation, self-efficacy, and frequency of leaving the house, with medium to large effect sizes and high satisfaction • **Conclusion:** Tele-CO-OP is feasible and demonstrates preliminary efficacy in improving participation for adults with chronic ABI. Further controlled studies are needed to confirm its effectiveness.

Notable Presentations Information At CONy 2025
AI / ML

Date	Author	Title
21 Mar 2025	Abraham Ohry Volker Hoemberg Dafin Muresanu	Is AI a useful tool for making decisions in post stroke neurorehabilitation?
21 Mar 2025	Letizia Leocani Tjalf Ziemssen	Digital technology should replace neurological examination

Strategic Insights and Strategy Development is our focus