

# Stroke

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March 2025

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### 1. Optimizing non-invasive vagus nerve stimulation for treatment in stroke

**Authors:** Baig, Sheharyar S.;Dorney, Samantha;Aziz, Mudasar;Bell, Simon M.;Ali, Ali N.;Su, Li;Redgrave, Jessica N. and Majid, Arshad

**Publication Date:** 2025

**Journal:** Neural Regeneration Research

**Abstract:** Stroke remains a leading cause of long-term disability worldwide. There is an unmet need for neuromodulatory therapies that can mitigate against neurovascular injury and potentially promote neurological recovery. Transcutaneous vagus nerve stimulation has been demonstrated to show potential therapeutic effects in both acute and chronic stroke. However, previously published research has only investigated a narrow range of stimulation settings and indications. In this review, we detail the ongoing studies of transcutaneous vagus nerve stimulation in stroke through systematic searches of registered clinical trials. We summarize the upcoming clinical trials of transcutaneous vagus nerve stimulation in stroke, highlighting their indications, parameter settings, scope, and limitations. We further explore the challenges and barriers associated with the implementation of transcutaneous vagus nerve stimulation in acute stroke and stroke rehabilitation, focusing on critical aspects such as stimulation settings, target groups, biomarkers, and integration with rehabilitation interventions. (Copyright © 2025 Neural Regeneration Research.)

**2. Getting to the Heart of Stroke: Novel Initiative which Increases Evidence-Based Post-Stroke Cardiac and Vascular Diagnostic Evaluation, Cardiology and Neurology Collaboration and Identification of Stroke Etiology in Males and Female**

**Authors:** Bailey, Alison;Lakkireddy, Dhanunjaya R.;Jauch, Edward C.;Witt; et al.

**Journal:** Journal of the American College of Cardiology

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**3. Thirty-Day Readmission Rate and Predictors of Acute Ischemic Stroke After Transcatheter Aortic Valve Replacement**

**Authors:** Barzallo, Pablo;Fratti, Juan Del Cid;Kumaran, Sriviji Senthil;Deshpande, Radhika and Wattanakit, Keattiyoat

**Publication Date:** 2025

**Journal:** Journal of the American College of Cardiology (JACC) 85(12), pp. 1128

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**4. Outpatient Visits Decrease Stroke Risk in Af Patients**

**Authors:** Bsoul, Mayana;Assaf, Ala Yaser Mohammad;Bidaoui, Ghassan;Younes; et al.

**Publication Date:** 2025

**Journal:** Journal of the American College of Cardiology (JACC)

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**5. An interpretable hybrid machine learning approach for predicting three-month unfavorable outcomes in patients with acute ischemic stroke**

**Authors:** Chen, Chen;Zhang, Wenkang;Pan, Yang and Li, Zhen

**Publication Date:** 2025

**Journal:** International Journal of Medical Informatics

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**6. The impact of gut microbiota on the occurrence, treatment, and prognosis of ischemic stroke**

**Authors:** Chen, Liying;Wang, Xi;Wang, Shiqi;Liu, Weili;Song, Zhangyong and Liao, Huiling

**Publication Date:** 2025

**Journal:** Neurobiology of Disease

**Abstract:** Ischemic stroke (IS) is a cerebrovascular disease that predominantly affects middle-aged and elderly populations, exhibiting high mortality and disability rates. At present, the

incidence of IS is increasing annually, with a notable trend towards younger affected individuals. Recent discoveries concerning the "gut-brain axis" have established a connection between the gut and the brain. Numerous studies have revealed that intestinal microbes play a crucial role in the onset, progression, and outcomes of IS. They are involved in the entire pathophysiological process of IS through mechanisms such as chronic inflammation, neural regulation, and metabolic processes. Although numerous studies have explored the relationship between IS and intestinal microbiota, comprehensive analyses of specific microbiota is relatively scarce. Therefore, this paper provides an overview of the typical changes in gut microbiota following IS and investigates the role of specific microorganisms in this context. Additionally, it presents a comprehensive analysis of post-stroke microbiological therapy and the relationship between IS and diet. The aim is to identify potential microbial targets for therapeutic intervention, as well as to highlight the benefits of microbiological therapies and the significance of dietary management. Overall, this paper seeks to provide key strategies for the treatment and management of IS, advocating for healthy diets and health programs for individuals. Meanwhile, it may offer a new perspective on the future interdisciplinary development of neurology, microbiology and nutrition.; Competing Interests: Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. (Copyright © 2025 The Authors. Published by Elsevier Inc. All rights reserved.)

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## **7. The impact of ankle-foot orthoses on mobility of dual-task walking in stroke patients? A cross-sectional two-factor factorial design clinical trial**

**Authors:** Chen, Rong;Chen, Huan;Li, Shilin;Cao, Peihua;He, Longlong;Zhao, Yijin;He, Zijun;Gong, Ze;Huang, Guozhi and Zeng, Qing

**Publication Date:** 2025

**Journal:** Neuropsychological Rehabilitation

**Abstract:** ABSTRACT To assess the impact of ankle-foot orthoses (AFOs) on mobility and gait during dual-task walking in post-stroke survivors. In this cross-sectional, factorial design trial, stroke survivors performed four randomized tasks: (1) dual-task walking with AFOs, (2) single-task walking with AFOs, (3) dual-task walking without AFOs, and (4) single-task walking without AFOs. Primary outcome was the Timed Up and Go (TUG) test, with secondary outcomes including gait metrics, Tinetti scores, and auditory N-back tests. In the results, 48 subjects (38 males and 10 females; 19-65 years) completed the trial. Patients had a greater TUG score with AFOs compared with non-AFOs conditions (95% CI: 7.22-14.41,  $P < 0.001$ ) in single-task and dual-task conditions. Secondary outcomes showed marked enhancement with AFOs during dual-task walking, with significant interaction effects in gait metrics, balance, and cognitive function ( $P < 0.05$ ). Although not statistically significant, dual-task effects of TUG and walking speed were more pronounced during dual-task walking. In conclusion, AFOs enhance mobility and gait during both single and dual-task walking in post-stroke survivors.

## 8. i-REBOUND Cook Well After Stroke: Co-Designing a Culinary Nutrition Programme for Australian Stroke Survivors

**Authors:** Chun, Chian Thong Nicole; MacDonald-Wicks, Lesley; English, Coralie; Lannin, Natasha A.; Janssen, Heidi; Davey, Julie; Kempson, Clive; Hopper, Bev and Patterson, Amanda

**Publication Date:** 2025

**Journal:** Journal of Human Nutrition and Dietetics : The Official Journal of the British Dietetic Association

**Abstract:** Introduction: Stroke is a life-altering event for survivors. While improving diet quality is associated with reduced stroke risk, the post-stroke effects often make meal preparation difficult. There is a lack of published research on culinary nutrition programmes tailored to stroke survivors' recovery journey. This study outlines the co-design process of a culinary nutrition programme aimed at promoting the uptake of a Mediterranean-style diet for people who have had a stroke.; Methods: Utilising the Integrated Knowledge Translation (IKT) framework, exploratory interviews and focus groups were conducted with an IKT team comprising six multidisciplinary researchers and three lived experience research partners. A further six stroke survivors and seven stroke clinicians participated in focus groups as end-users.; Results/discussions: The resulting intervention prototype, titled Cook Well After Stroke, includes a recipe book supplemented with additional programme elements. The IKT team identified critical gaps in current stroke care, particularly during the transition from hospital rehabilitation to home, and key components for the Cook Well After Stroke Programme, including intervention name, overarching principles, recipe guidelines and supporting resources. The recipe book was iteratively developed with stroke survivors, incorporating feedback and suggestions for improvement into the final prototype.; Conclusion: This study represents an innovative project to develop a Cook Well After Stroke Programme tailored specifically for Australian stroke survivors, which may contribute to secondary stroke prevention strategies. This project has developed a prototype and identified additional elements required for the further advancement and completion of the Cook Well After Stroke Programme. Further research is needed to adapt the intervention prototype for a more diverse range of stroke survivors and to evaluate the feasibility, acceptability and accessibility of this co-designed programme. (© 2025 The Author(s). Journal of Human Nutrition and Dietetics published by John Wiley & Sons Ltd on behalf of British Dietetic Association.)

## 9. Effects of a Supportive Training on Caregiving Burden of Stroke Patients' Caregivers after Discharge from an Intensive Care Unit (ICU)

**Authors:** Dahmardeh, Mahla;Dahmardeh, Hanie;Sadeghi, Narjes Khatoon and Moghaddam, Alireza Ansari

**Publication Date:** 2025

**Journal:** Archives of Anesthesiology & Critical Care

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## 10. Racial and Ethnic Differences in Advance Care Planning and End-of-Life Care in Older Adults With Stroke: A Cohort Study

**Authors:** Enguidanos, Susan;Zhu, Yujun and Creutzfeldt, Claire J.

**Publication Date:** 2025

**Journal:** Neurology

**Abstract:** Background and Objectives: Stroke is a leading cause of death and disability in the United States and may result in cognitive impairment and the inability to participate in treatment decisions, attesting to the importance of advance care planning (ACP). Although racial and ethnic differences have been shown for ACP in the general population, little is known about these differences specific to patients with stroke. The aim of this study was to examine the presence of ACP and receipt of life-prolonging care by race and ethnicity among decedents who had suffered a stroke.; Methods: We used the Health and Retirement Study, a nationally representative longitudinal survey. We conducted a cohort study of decedents who died between 2000 and 2018 using multivariable logistic regression models to explore the association between self-reported ethnicity and race and completion of ACP (including a living will LW] and durable power of attorney for healthcare DPOAH]) and receipt of life-prolonging care at end of life, controlling for covariates. Stratified models for each race and ethnicity also were conducted.; Results: This study included 3,491 decedents with a reported history of stroke; 57.4% were women, and the mean age was 81.5 years (SD = 10.2). Decedents who identified as non-Hispanic White had the highest end-of-life planning rates (LW: 57%, DPOAH: 72%, and ACP conversation: 63%) compared with those identifying as non-Hispanic Black (LW: 20%, DPOAH 40%, and ACP conversation: 41%) and Hispanic (LW: 20%, DPOAH: 36%, and ACP conversation: 42%;  $p < 0.001$ ). The presence of ACP discussions, LW, and DPOAH was associated with lower odds of receiving life-prolonging care at end-of-life among non-Hispanic White decedents (OR = .64, CI = .447-0.904; OR = .30, CI = .206-0.445; OR = .61, CI = .386-0.948) but not among those who identified as Hispanic or non-Hispanic Black.; Conclusions: Hispanic or non-Hispanic Black decedents with stroke had significantly lower rates of ACP discussions, LWs, and naming a DPOAH compared with those who identified as non-Hispanic White. In addition, ACP activities were inversely associated with receipt of life-prolonging care among non-Hispanic White decedents, but not among those who identified as

non-Hispanic Black and Hispanic. Small ethnic/racial subgroup sizes limit the generalizability of this study.

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### **11. Factors associated with upper extremity use after stroke: a scoping review of accelerometry studies**

**Authors:** Gagné-Pelletier, Léandre;Poitras, Isabelle;Roig, Marc and Mercier, Catherine

**Publication Date:** 2025

**Journal:** Journal of NeuroEngineering & Rehabilitation (JNER)

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### **12. Recommended moderate to vigorous physical activity levels for people in the chronic phase of stroke can be achieved in outpatient physiotherapy: a multicentre observational study**

**Authors:** Goncalves, Stéphanie;Le Bourvellec, Morgane;Duclos, Noémie C. and Mandigout, Stéphane

**Publication Date:** 2025

**Journal:** Topics in Stroke Rehabilitation

**Abstract:** Background: Rehabilitation in the chronic phase of stroke should include 20 minutes of moderate to vigorous physical activity (MVPA). However, the level of compliance with MVPA guidelines in outpatient physiotherapy is unknown. Objectives: To investigate (1) whether people in the chronic phase of stroke perform the recommended 20 minutes of MVPA during outpatient physiotherapy sessions in France, (2) whether the person's clinical characteristics influence MVPA time and (3) which interventions contribute to achievement of recommended MVPA time. Methods: This was a multicentre, cross-sectional observational study of routine outpatient physiotherapy sessions in France in people in the chronic phase of stroke. The main measures included MVPA time (determined using a heart rate monitor), clinical tests and types of physiotherapy interventions (recorded by external investigator during 2 sessions for each participant). Results: 84 people in the chronic phase of stroke and 152 outpatient physiotherapy sessions in 29 outpatient clinics were included (2021–2022). Median (interquartile range) MVPA time was 25 (7–45) minutes across all sessions. Fifty-nine percent of the sessions fulfilled MVPA guidelines. Among clinical tests, only the Mini-Mental Scale Examination was significantly associated with MVPA time. Endurance, balance, and functional lower limb training were associated with the achievement of MVPA guidelines. Conclusion: Outpatient physiotherapy sessions have the potential to meet the MVPA guidelines. Further research is needed to understand the variability of compliance with MVPA guidelines and to develop strategies to increase the integration of MVPA into outpatient physiotherapy sessions.

### 13. Machine learning to predict stroke risk from routine hospital data: A systematic review

**Authors:** Heseltine-Carp, William;Courtman, Megan;Browning, Daniel;Kasabe, Aishwarya;Allen, Michael;Streeter, Adam;Ifeachor, Emmanuel;James, Martin and Mullin, Stephen

**Publication Date:** 2025

**Journal:** International Journal of Medical Informatics

**Abstract:** Purpose: Stroke remains a leading cause of morbidity and mortality. Despite this, current risk stratification tools such as CHA 2 DS 2 -VASc and QRISK3 are of limited accuracy, particularly in those without a diagnosis of atrial-fibrillation. Hence, there is a need for more accurate stroke risk prediction models. Machine-learning (ML) may provide a solution to this by leveraging existing routine hospital databases to build accurate stroke risk prediction models and identify novel risk factors for stroke.; Aims: In this systematic review we appraise current research using ML to predict stroke risk from routine hospital data. Based on these findings we then highlight common methodological limitations and recommendations for future research.; Methods: In this review we identify 49 original research (38 in the general population and 11 in AF specific populations) articles from the PUBMED database from January-2013 to December-2024 using ML and routine hospital data to predict the risk of stroke.; Results: ML models were able to accurately predict stroke risk in both AF specific and general populations, with AUCs ranging from 0.64 to 0.99. Where tested, ML also consistently outperformed traditional risk stratification tool, such as CHA 2 DS 2 -VASc. ML also appeared useful in identifying several novel risk factors from electrocardiogram, laboratory test and echocardiography data. However, the quality of datasets were often limited, there was a high suspicion of overfitting and models often lacked calibration, external validation and explainability analysis.; Conclusion: Whilst ML has shown great potential in stroke prediction and identifying novel risk factors for stroke, improvements in study methodology is required prior to integration of ML into routine healthcare. Future research should adhere to the EQUATOR guidance on prediction models and encourage interdisciplinary collaboration between computer scientists and clinicians. Further prospective RCTs are also required to validate models in the clinical setting and the identify barriers of integrating ML into routine healthcare.; Competing Interests: Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. (Copyright © 2025 The Author(s). Published by Elsevier B.V. All rights reserved.



#### 14. Enhancing readmission prediction model in older stroke patients by integrating insight from readiness for hospital discharge: Prospective cohort study

**Authors:** Hu, Huixiu;Zhao, Yajie;Sun, Chao;Wu, Quanying;Deng, Ying and Liu, Jie

**Publication Date:** 2025

**Journal:** International Journal of Medical Informatics

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#### 15. Pathway analysis of the impact of dysphagia on the prognosis of patients with stroke: Based on structural equation modeling

**Authors:** Huan, Liu;Yutong, Hou;Jiajia, Shi;Wenbo, Liu and Pingping, Zhang

**Publication Date:** 2025

**Journal:** Clinical Nutrition ESPEN

**Abstract:** Background and Aims: Dysphagia is significantly correlated with prognostic outcomes in patients with stroke; however, the intrinsic mechanism of action between the two remains unclear. This study aimed to model the intrinsic mechanism of action between dysphagia and prognostic outcomes in patients with stroke based on structural equation modeling.; Methods: A retrospective analysis of 900 inpatients with stroke from three large hospitals was performed. AMOS software (version 23.0) was used to construct the structural equation modeling.; Results: The overall model showed a good fit (chi-square = 27.3, root mean square error of approximation = 0.01, standardized root mean square residual = 0.032, comparative fit index = 0.98, and adjusted goodness of fit = 0.94). Structural equation modeling showed that the total effect of dysphagia on the prognosis of patients with stroke was 0.694, with a direct effect of 0.599, accounting for 86.31 % of the total effect. The total indirect effect was 0.095, with the mediating effects of serum albumin level and pneumonia accounting for 6.48 % and 7.35 % of the total effect, respectively. The moderating effects of sex on dysphagia and the relationship between activities of daily living, modified Rankin scale score, and length of hospital stay were insignificant ( $\Delta R^2 = 0.063$ ,  $P = 0.145$ ;  $\Delta R^2 = 0.002$ ,  $P = 0.620$ ;  $\Delta R^2 = 0.001$ ,  $P = 0.307$ ).; Conclusions: Dysphagia can directly affect the prognostic outcomes of patients with stroke and indirectly affect prognosis by triggering pneumonia and lowering albumin levels. Sex was not found to play a moderating role in the relationship between dysphagia and prognosis.; Competing Interests: Declaration of competing interest There are no conflicts of interest to declare. (Copyright © 2024 European Society for Clinical Nutrition and Metabolism. Published by Elsevier Ltd. All rights reserved.)

## 16. Neuroimaging predictors of malignant brain oedema after thrombectomy in ischemic stroke: a systematic review and meta-analysis

**Authors:** Huang, Linrui;Song, Xindi;Li, Jingjing;Wang, Yanan;Hua, Xing;Liu, Meng;Liu, Ming and Wu, Simiao

**Publication Date:** 2025

**Journal:** Annals of Medicine

**Abstract:** Background: We systematically reviewed neuroimaging predictors for malignant brain oedema (MBE) after thrombectomy in patients with ischemic stroke.; Methods: We searched MEDLINE and EMBASE in November 2023 for studies of patients with ischemic stroke. We included studies investigating neuroimaging predictors or prediction models for MBE after thrombectomy. We estimated effect size for the association between predictors and MBE by odds ratios (ORs) or standardized mean differences (SMDs), and pooled results using random-effects modelling.; Results: We included 19 studies ( n = 6007) with 17 neuroimaging factors and 5 models. Lower Alberta Stroke Program Early CT scores (ASPECTS, n = 3052, SMD -1.84, 95% CI -2.52 - -1.16; df = 9) and longer extent of arterial occlusion at baseline were associated with higher risk of MBE. Post-thrombectomy ASPECTS was associated with MBE in general stroke patients ( n = 453, SMD -2.91, -4.02 - -1.79; df = 1), but not in successfully reperfused patients ( n = 110, SMD 0.24, -0.16 - 0.65). Successful reperfusion reduced risk of MBE ( n = 4851, OR 0.39, 0.30-0.51; df = 13). Contrast enhancement on CT after thrombectomy was associated with higher risk of MBE ( n = 998, OR 4.82, 2.53-9.20; df = 4). More reserved brain volume capacity (baseline: n = 683, OR 0.83, 0.77-0.91, p < .001; post-thrombectomy: n = 329, OR 0.53, 0.37-0.77, p < .001) and good collaterals (baseline: n = 2301, OR 0.14, 0.10-0.20, df = 3; post-thrombectomy: n = 1006, OR 0.28, 0.15-0.51; df = 2) were associated with lower risk of MBE.; Conclusion: Lower ASPECTS and longer arterial occlusion at baseline, and post-thrombectomy CT contrast enhancement increased risk of MBE. Reperfusion after thrombectomy, more reserved brain volume and good collaterals at baseline and post-thrombectomy reduced its risk.

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## 17. Research trends and hotspots in post-stroke speech rehabilitation: A bibliometric analysis

**Authors:** Huang, Nan;Zou, Kang;Liu, Fang;Su, Zhen;Chen, Long;Zhong, Yanbiao;Luo, Yun;Wang, Maoyuan and Xiao, Li

**Publication Date:** 2025

**Journal:** Acta Psychologica

**Abstract:** Background: With the global population aging, the incidence of stroke is rising, often resulting in motor dysfunction, speech disorders, and swallowing difficulties, significantly affecting daily life and social participation. Speech and language disorders notably impair

communication and restrict social engagement, making speech rehabilitation a critical intervention. However, comprehensive bibliometric analyses on post-stroke language rehabilitation are limited, restricting understanding of progress in this field.; Objective: This study aimed to identify hotspots and trends in post-stroke speech rehabilitation research from 2003 to 2023 to guide future studies.; Methods: Articles on post-stroke speech rehabilitation from 2003 to 2023 were retrieved from the Web of Science Core Collection. Analyses included annual publications, key authors, countries, institutions, journals, co-citations, and keywords.; Results: Among 1077 articles, publication volume showed an upward trend, with the United States leading in contributions. The Aphasiology journal published the most articles, and prominent institutions like the University of Queensland demonstrated significant publication and citation impact. Key trends included "communication disorders," "functional connectivity," and "melodic intonation therapy," with "stroke" and "aphasia" emerging as central keywords.; Conclusion: Research in post-stroke speech rehabilitation is increasing, with significant contributions from the United States and key institutions. Trends highlight the importance of communication-focused therapies and innovative techniques like melodic intonation therapy. This study provides insights into research directions.; Competing Interests: Declaration of competing interest The authors have declared that no competing interests exist. (Copyright © 2025 The Authors. Published by Elsevier B.V. All rights reserved.)

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## **18. Comparative Study Between Aquatic Therapy and Land-Based Exercises in Hemiplegic Patients After Stroke: A Randomized Controlled Trial**

**Authors:** Iatridou, Georgia; Stergiou, Alexandra N.; Varvarousis, Dimitrios N.; Theodorou, Areti; Doulgeri, Sofia; Pelidou, Henrietta-Syngliti; Dimakopoulos, George and Ploumis, Avraam

**Publication Date:** 2025

**Journal:** American Journal of Physical Medicine & Rehabilitation

**Abstract:** Competing Interests: Financial disclosure statements have been obtained, and no conflicts of interest have been reported by the authors or by any individuals in control of the content of this article.; Objective: This study aimed to assess the effects of aquatic therapy in individuals with hemiplegia compared with those of a conventional land-based exercise program.; Design: This was a blinded, randomized controlled study of chronic stroke patients with hemiplegia. The participants were randomized into aquatic therapy (experimental) or conventional therapy (control) groups. The aquatic therapy group conducted the exercise program in a swimming pool, and the conventional therapy group performed to an exercise on the land environment three times per week for 6 wks. Both interventions focused on posture, balance, and weight-bearing exercises. Outcomes included the Berg Balance Scale, Brunnstrom Scale, Motricity Index, muscle strength tests, Modified Ashworth Scale, Postural Assessment Scale for Stroke, Trunk Control Test, and Functional Independence Measure. In addition, postural sway was evaluated by using the variables of center of pressure displacements in the mediolateral and anteroposterior directions.; Results: The findings of the present study show that the experimental group (26 patients) exhibited significant improvements in spasticity compared with the control group (25 patients) (  $P = 0.01$ ). The conventional therapy group also achieved significant improvements (  $P < 0.05$ ) in anteroposterior deviation, mediolateral velocity, and total velocity of center of pressure in a

sitting position with eyes closed.; Conclusions: Land-based exercises were more beneficial in the spasticity of chronic stroke patients. (Copyright © 2024 Wolters Kluwer Health, Inc. All rights reserved.)

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## **19. Trends in Complementary and Alternative Medicine use in Stroke**

**Authors:** Khan, Najah;Khan, Yumn and Ekpo, Eson

**Publication Date:** 2025

**Journal:** Journal of the American College of Cardiology (JACC)

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## **20. Efficacy of brain-computer interface training with motor imagery-contingent feedback in improving upper limb function and neuroplasticity among persons with chronic stroke: a double-blinded, parallel-group, randomized controlled trial**

**Authors:** Kim, Myeong Sun;Park, Hyunju;Kwon, Ilho;An, Kwang-Ok;Kim, Hayeon;Park, Gyulee;Hyung, Wooseok;Im, Chang-Hwan and Shin, Joon-Ho

**Publication Date:** 2025

**Journal:** Journal of NeuroEngineering & Rehabilitation (JNER)

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## **21. Experiences With Mobile Health-Enabled Ambulatory Monitoring Among Stroke Survivors: A Qualitative Study**

**Authors:** Lau, Stephen C. L.;Bright, Lindsay;Connor, Lisa Tabor and Baum, Carolyn M.

**Publication Date:** 2025

**Journal:** OTJR : Occupation, Participation and Health

**Abstract:** Inquiring into the experiences of stroke survivors toward ambulatory monitoring is crucial for optimizing user adoption, design, implementation, and sustainability of ambulatory monitoring in the stroke population. This study was aimed to identify facilitators and barriers for ambulatory monitoring among stroke survivors, as well as their suggestions for development and implementation of ambulatory monitoring. We conducted individual semi-structured interviews with 40 stroke survivors who received ambulatory monitoring. The interviews were analyzed using thematic content analysis. Six themes about facilitators associated with ambulatory monitoring emerged: (1) user support, (2) technological features, (3) convenience, (4) personal strategies, (5) social influence, and (6) time commitment. Three themes about barriers to using ambulatory monitoring emerged: (1) personal factors, (2) functionality, (3) study design. Three themes about suggestions emerged: (1) personalization, (2) functionality, and (3) interactive feedback. As mobile health technology is becoming more popular, the findings of this study provide timely implications and practical considerations for ambulatory monitoring in the stroke population.; Competing Interests: Declaration of Conflicting

InterestsThe author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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**22. Language function improvement and cortical activity alteration using scalp acupuncture coupled with speech-language training in post-stroke aphasia: A randomised controlled study**

**Authors:** Lin, Bingbing;Ni, Jinglei;Xiong, Xiao;Zhang, Lanlan;Song, Jian;Wang, Mengxue;Chai, Linsong;Huang, Yunshi and Huang, Jia

**Publication Date:** 2025

**Journal:** Complementary Therapies in Medicine

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**23. Changes in younger stroke survivors' body perception as indicated in body drawings: A comparison between Expressive Arts-based Intervention and control groups**

**Authors:** Lo, Temmy L. T. and Ho, Rainbow T. H.

**Publication Date:** 2025

**Journal:** Neuropsychological Rehabilitation

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**24. A Meta-Analysis Evaluating High-Intensity Interval Training in Post-Stroke Patients: a Hit for Cardiopulmonary Rehabilitation?**

**Authors:** Najeeb, Hala;Malik, Javeria;Khan, Zuhair Ahmad;Ahmed; et al.

**Publication Date:** 2025

**Journal:** Journal of the American College of Cardiology (JACC)

## **25. More intensive versus conservative blood pressure lowering after endovascular therapy in stroke: a meta-analysis of randomised controlled trials**

**Authors:** Naji Mansoor, Ahmed;Choudhary, Vatsalya;Mohammad Nasser; et al.

**Publication Date:** 2025

**Journal:** Blood Pressure

**Abstract:** Background: The optimum systolic blood pressure (BP) after endovascular thrombectomy for acute ischaemic stroke is uncertain. We aimed to perform an updated meta-analysis of randomised controlled trials (RCTs) to evaluate the safety and efficacy of more intensive BP management compared to less intensive BP management.; Methods: We searched various electronic databases to retrieve relevant RCTs on the clinical effects of more intensive BP management after endovascular thrombectomy compared to the less intensive management. We calculated odds ratios (ORs) with 95% confidence intervals (CIs) for dichotomous outcomes.; Results: Our meta-analysis included four RCTs with a total of 1560 patients. More intensive BP management (<140 mmHg) was associated with a statistically significant decrease in the number of patients showing functional independence (modified Rankin scale mRS] score = 0-2) at 90 days (OR 0.69; CI = 0.51-0.94). Regarding 90-day mortality, our pooled results showed no statistically significant difference between the two groups (OR 1.21; CI = 0.89-1.65). There was no statistically significant difference between the two groups regarding the incidence of intracerebral haemorrhage (ICH) (OR 1.09; CI = 0.85-1.39) and the incidence of symptomatic intracerebral haemorrhage (sICH) (OR 1.11; CI = 0.75-1.65).; Conclusion: According to our meta-analysis, the intensive BP lowering group decreased the number of patients showing functional independence at 90 days. We found no benefit of the intensive lowering of BP on mortality rates and incidence of ICH compared to the conservative BP management. Future large-scale trials should focus on other interventions to improve prognosis in these patients.

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## **26. Risk of Stroke in Patients with Congenital Heart Disease: a Systematic Review and Meta-Analysis**

**Authors:** Odat, Ramez M.;Idrees, Muhammad;Jain, Hritvik;Alshwayyat, Sakhr;Hussain, Husam Aldean;Badrawy, Basma;Aldamen, Ali;Yaseen, Abdel Rahman Bani;Arabadi, Bassel;Hussein, Ayham M.;Aloudat, Osama;Sabet, Cameron and Nguyen, Dang

**Publication Date:** 2025

**Journal:** Journal of the American College of Cardiology (JACC)

## 27. Impact of low muscle mass and bone mineral density on long-term outcomes of acute ischemic stroke: A prospective study

**Authors:** Oge, Dogan Dinc;Arsava, Ethem Murat and Topcuoglu, Mehmet Akif

**Publication Date:** 2025

**Journal:** Clinical Nutrition ESPEN

**Abstract:** Background: Premorbid sarcopenia, osteoporosis, and obesity are epiphenomena that affect survival and functional outcomes in patients with acute ischemic stroke. The effects of preexisting sarcopenia and/or osteopenia on long-term outcome after ischemic stroke were herein prospectively studied.; Methods: Dual-energy x-ray absorptiometry (DeXA), bio-impedance analysis (BIA) and muscle ultrasonography (US) data were prospectively collected within the first 72 h in 297 consecutive acute ischemic stroke patients (45.5 % women, mean age: 67.8 years). Bone mineral density (BMD) and bone mineral content (BMC) were measured by DeXA for the lumbar spine, and hip (femoral neck and total). BIA was used to measure skeletal muscle mass indices (SMMI, normalized to height-squared, weight and body mass index - SMMI-height, SMMI-weight and SMMI-BMI, respectively) and phase angle. Vertical muscle thickness (MT, mm) for biceps brachii (BB), rectus femoris (RF), vastus lateralis (VL) and gastrocnemius medialis (GCM), cross-sectional area (CSA, cm<sup>2</sup>) for BB and RF, fascicle length (fL) and pennation angle (PeA) for VL and GCM were measured using muscle US. Multiple exploratory logistic regression models were constructed for detect predictors of mortality and unfavorable functional outcome (Modified Rankin score-mRS>1) at the end of the first year. The cut-off value determined by the Younden-J index, and the lower limit of the 95 % confidence interval of the area under the receiver operating characteristic (ROC) curve (AUC) were reported.; Results: Independent predictors for one-year unfavorable prognosis were phase angle (cut-off  $\leq 5^\circ$ ; lower limit of 95%CI of ROC-AUC: 0.704); muscle thickness (AUCs were 0.677 for RF ( $\leq 9.29$ ), 0.660 for GCM ( $\leq 13.38$ ), 0.655 for R + VIM (vastus intermedius) ( $\leq 15.31$ ), 0.605 for BB + brachialis ( $\leq 23.98$ ) and 0.592 for VL ( $\leq 10.64$ ), 0.619 for VL transverse MT ( $\leq 19.95$  mm), and cross sectional areas (0.656 for RF ( $\leq 4.27$  cm<sup>2</sup>) and 0.609 for BB ( $\leq 8.88$  cm<sup>2</sup>). Independent predictors for 1-year mortality were phase angle (95 % lower limit of AUC 0.746 for  $\leq 3.7^\circ$ ), BB + brachialis MT (0.625 for  $\leq 23.98$  mm), and BB MT (0.613 for  $\leq 19.27$ ).; Conclusions: Phase angle and ultrasonographic muscle-size parameters (thickness and cross-sectional area) obtained at admission are significant and independent predictors of long-term functional prognosis and mortality in acute ischemic stroke. Ultrasound parameters of muscle architecture (pennation angle, fiber length), DeXA (BMC and BMD), and BIA-derived SMMI have low independent prediction capability of long-term prognosis.; Competing Interests: Declaration of competing interest The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. (Copyright © 2024 European Society for Clinical Nutrition and Metabolism. Published by Elsevier Ltd. All rights reserved.)

## **28. End-Of-Life Symptoms and Symptom Management in Older Adults With Stroke Versus Cancer**

**Authors:** Ramsburg, Hanna;MacKenzie Greenle, Meredith and Hinkle, Janice L.

**Publication Date:** 2025

**Journal:** American Journal of Hospice & Palliative Medicine

**Abstract:** Background: Little is known about the end-of-life (EOL) experience in older adults with stroke or how similar the EOL experience is in older adults with stroke when compared to those with cancer. Purpose: We utilized data from the National Health and Aging Trends Study (NHATS) to compare symptoms, symptom management, and overall rating of care in the last month of life between older adults diagnosed with stroke and those diagnosed with cancer. Methods: Logistic regression was used to examine the associations between diagnosis and symptom prevalence, symptom management, and overall care quality, adjusting for care intensity, place of death, and demographic covariates. Results: A total of 747 NHATS participants diagnosed with stroke or cancer were identified. Diagnosis of stroke was associated with whether the symptoms of pain (OR.46, 95% CI.26-.83), dyspnea (OR.32, 95% CI.17-.64), and emotional distress were documented (OR.57, 95% CI.33-.98). Diagnosis was not associated with pain management (OR.85, 95% CI.48-1.48), dyspnea management (OR.97, 95% CI.47-2.03), or emotional distress management (OR 1.02, 95% CI.53-1.97). Correlates of overall care quality included place of death and diagnosis, with patients with stroke more likely to report poorer care quality (OR 1.77, 95% CI 1.03-3.04) as well as those who died in the hospital (OR 2.18, 95% CI 1.26-3.77). Conclusions: Older adults with stroke are at risk for inadequate symptom assessment and documentation, as well as poorer symptom management and poorer overall care quality.

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## **29. Do Orally Disintegrating Tablets Facilitate Medical Adherence and Clinical Outcomes in Patients with Post-stroke Dysphagia?: S. Sato et al.: Do Orally Disintegrating Tablets Facilitate Medical..**

**Authors:** Sato, So;Sasabuchi, Yusuke;Okada, Akira and Yasunaga, Hideo

**Publication Date:** 2025

**Journal:** Dysphagia



**30. Stroke Management and Analysis Risk Tool (SMART): An interpretable clinical application for diabetes-related stroke prediction**

**Authors:** Sun, Yumeng;Li, Jiayi;He, Haiyang;Xing, Gaochang;Liu, Zixuan;Meng, Qingpeng;Xu, Mingjun;Huang, Letian;Pan, Zhe;Liao, Jun and Ji, Cheng

**Publication Date:** 2025

**Journal:** Nutrition, Metabolism & Cardiovascular Diseases

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**31. Overground robotic exoskeleton vs conventional therapy in inpatient stroke rehabilitation: results from a pragmatic, multicentre implementation programme**

**Authors:** Tam, Pui Kit;Tang, Ning;Kamsani, Nur Shafawati Binte;Yap, Thian Yong;Coffey-Aladdin, Ita;Goh, Shi Min;Tan, Jean Pei Pei;Lui, Yook Cing;Lee, Rui Ling;Suresh, Ramaswamy and Chew, Effie

**Publication Date:** 2025

**Journal:** Journal of NeuroEngineering & Rehabilitation (JNER)

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**32. Acute Outcomes of Stroke in Patients with Opiate and Cannabis use**

**Authors:** Zhang, Brandon;Webber, Zak;Largent-Milnes, Tally and Seckeler, Michael D.

**Publication Date:** 2025

**Journal:** Journal of the American College of Cardiology (JACC)

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**33. Depressive symptoms changes in the new-onset stroke patients: A cross-lagged panel network analysis**

**Authors:** Zhang, Peijia;Sun, Changqing;Zhu, Zhengqi;Miao; et al.

**Publication Date:** 2025

**Journal:** Journal of Affective Disorders

**Abstract:** Background: Each year, there are approximately 10.3 million new stroke cases worldwide, with 2 million occurring in China. Post-stroke depression (PSD) is a common complication that negatively affects rehabilitation outcomes and increases long-term mortality.;

**Objective:** This study used network analysis to investigate the cross-sectional and longitudinal networks between depressive symptoms in new-onset stroke patients with PSD, aiming to identify the key symptoms and predictive relationships among distinct symptoms during the acute phase and 6 months after the stroke.; **Methods:** This longitudinal descriptive study collected data from October 2022 to December 2023, including eligible new-onset stroke patients. Depressive symptoms were assessed using the CES-D scale, and network analysis was used to analyze the interactions between symptoms.; **Results:** 613 participants completed the data collection. The study found that D3 (Felt sadness) emerged as the central depressive symptom at both baseline and follow-up (EI value = 1.215 and 1.168, respectively). In the longitudinal network analysis, D7 (Sleep quality) displayed the strongest out-Expected Influence (value = 1.728), while D4 (Everything was an effort) showed the strongest in-Expected Influence (value = 1.322).; **Limitations:** The self-report measure is adopted for all depressive symptoms in the study, and there may be some deviation.; **Conclusion:** These symptom-level associations at cross-sectional and longitudinal networks extend our understanding of PSD symptoms in new-onset stroke patients by pointing to specific key depressive symptoms that may aggravate PSD. Recognizing these symptoms is imperative for the development of targeted interventions and treatments aimed at addressing PSD in new-onset stroke patients.; **Competing Interests:** Declaration of competing interest No conflict of interest has been declared by the authors. (Copyright © 2025 Elsevier B.V. All rights reserved.)

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#### **34. Effect of Self-efficacy, Disease Perception, Social Support, Anxiety, and Depression on Self-management in Young Patients With Stroke**

**Authors:** Zhang, Rongfang;Li, Xiaojing;Luo, Huanli;Niu, Jiangtao and Zhang, Huimin

**Publication Date:** 2025

**Journal:** Journal of Neuroscience Nursing

**Abstract:** **BACKGROUND:** Better self-management of chronic diseases may benefit patient functional status, medication effectiveness, lifestyle, and psychosocial health. Self-efficacy, disease perception, social support, anxiety, and depression are determinants of self-management behaviors in individuals with chronic illnesses. There remains a gap in the empirical exploration of the influence of these factors on self-management behaviors in young Chinese stroke survivors. This study examined how these factors affect specific self-management behaviors. **METHODS:** Validated instruments were used to evaluate patient self-efficacy, disease perception, social support, anxiety, and depression in a cross-sectional study. Structural equation modeling was used to examine the hypothesis. **RESULTS:** Self-efficacy and social support showed a positive correlation with self-management (0.421 and 0.446, respectively;  $P < .001$ ). Disease perception, anxiety, and depression were negatively correlated with self-management ( $-0.158$  and  $-0.336$ , respectively;  $P < .05$ ). The structural equation model fit the data very well; social support had a direct positive effect on self-management ( $t = 3.002$ ,  $P < .05$ ) and self-efficacy ( $t = 5.773$ ,  $P < .001$ ). However, the presence of social support had a positive impact on reducing anxiety and depression ( $t = -5.046$ ,  $P < .001$ ). Furthermore, self-efficacy positively affected self-management ( $t = 1.226$ ,  $P < .05$ ),

whereas anxiety and depression ( $t = -1.190$ ,  $P < .05$ ) and disease perception ( $t = -1.068$ ,  $P < .05$ ) had adverse effects on self-management. **CONCLUSION:** Medical staff and caregivers can improve patient self-management by helping them recognize the disease, reducing negative perceptions, communicating more for better understanding and care, intervening in anxiety and depression, and promoting mental health. This is especially important for young stroke patients.

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### **35. Unlocking potential: a bold vision for stroke care in England**

#### **Stroke Association**

**Publication Date:** 2025

Stroke remains one of the greatest health challenges in England today, with increasing rates of stroke incidence and the associated impact on individuals, their loved ones, and the health care system. This report sets out a comprehensive, evidence-based approach to addressing the challenges and inequities in stroke care. It outlines opportunities for improvement across the entire stroke pathway, from prevention and early intervention to stroke rehabilitation and life-after-stroke support.

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