

July 2025

NeuroBITE

NEWSLETTER

Welcome to the July 2025 edition of the NeuroBITE newsletter!

Hello from Team NeuroBITE,

This month we have a mouth-watering array of interesting studies from the world of Neuro-rehabilitation with a diverse range of innovative interventions. We start with four studies of interventions for stroke (two are Open Access) including a systematic review of Virtual Reality. We have three articles for TBI which are all free or open access. I am particularly interested in learning more about in-session assessments during CBT for depression. Shifting to dementia care, we learn about the effect of a music-based caregiving intervention in pain, and finally we have a computer-assisted cognitive rehabilitation program for attention in MS.

In other NeuroBITE news, I'll be at the 7th Pacific Rim conference in Brisbane which is a joint meeting of ASSBI, CCN and the INS, where I will present that systematic review of interventions for behavioural difficulties that NeuroBITE has been working on for the past two years. This is part of the soon-to-be-released Australian Guidelines for the Management of Psychosocial Difficulties following moderate-to-severe TBI. Watch this space for more details.

Happy reading!

Paul Gertler, Director of NeuroBITE

Stroke

Multimodal training with dual-task enhances immediate and retained effects on dual-task effects of gait speed not by cognitive-motor trade-offs in stroke survivors: a randomized controlled trial

Chuang, L. L., Hsu, A. L., Lin, Y. H., Yu, M. H., Hu, G. C., Ou, Y. C., & Wong, A. M. (2025). Disability and Rehabilitation, 47(5), 1194-1203.

PEDro-P Score: 7/10



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Enhancing multisensory rehabilitation of visual field defects with transcranial direct current stimulation: A randomized clinical trial

Diana, L., Casati, C., Melzi, L., Marzoli, S. B., & Bolognini, N. (2025). European Journal of Neurology, 32(e16559), 1-11.

OPEN ACCESS

PEDro-P Score: 9/10

Systematic literature review of virtual reality efficacy for cognitive rehabilitation in stroke survivors

Janaviciute-Puzauske, J., & Sinkariova, L. (2024). Advances in Cognitive Psychology, 20(3), 207-217.

OPEN ACCESS

Sound-based rehabilitation of unilateral spatial neglect: A systematic review of the literature

Lelaumier, C., Hassaini, S., Hinault, T., Petroff, A., Platel, H., & Coello, Y. (2025). Applied Neuropsychology: Adult, 1-18.

Traumatic Brain Injury

Utility of in-session assessments during cognitive behavioral therapy for depression after traumatic brain injury: Results from a randomized controlled trial

Erickson, J. M., Williams, R., Bombardier, C. H., & Fann, J. R. (2024). NeuroRehabilitation, 54(2), 245-257.

FREE ACCESS

PEDro-P Score: 4/10

Mixed methods, single case design, feasibility trial of a motivational conversational agent for rehabilitation for adults with traumatic brain injury

Hocking, J., Maeder, A., Powers, D., Perimal-Lewis, L., Dodd, B., & Lange, B. (2024). Clinical Rehabilitation, 38(3), 322-336.

OPEN ACCESS

RoBiNT Score: 6/30



Attention training after moderate-to-severe traumatic brain injury in adults: A systematic review

Soule, A. C., Fish, T. J., Thomas, K. G. F., & Schrieffer-Brown, L. (2025). Archives of Physical Medicine and Rehabilitation, 106(3), 433-443.

OPEN ACCESS

Dementia

The effect of a music-based caregiving intervention on pain intensity in nursing home patients with dementia: A cluster-randomized controlled study

Myrenget, M. E., Rustoen, T., Myskja, A., Smastuen, M., Rangul, V., Hapnes, O., Borchgrevink, P. C., Butler, S., Selbaek, G., Husebo, B., & Sandvik, R. (2024). Pain, 165(7), 1550-1558.

PEDro-P Score: 5/10

The effect of dual-task training on cognitive ability, physical function, and dual-task performance in people with dementia or mild cognitive impairment: A systematic review and meta-analysis

Yu, D., Li, X., He, S., Zhu, H., Lam, F. M. H., & Pang, M. Y. C. (2024). Clinical Rehabilitation, 38(4), 443-456.

Multiple Sclerosis

Home-based, computer-assisted cognitive rehabilitation for attention in pediatric onset multiple sclerosis: A randomized, multicenter pilot study

Masciulli, C., Portaccio, E., Goretti, B., Nicolai, C., Simone, M., Viterbo, R., Zaffaroni, M., Pippolo, L., Cocco, E., Fenu, G., Carta, E., Falautano, M., Celico, C., Pardini, M., Mancardi, G., Guerrini, R., Melani, F., Giovannelli, F., Rocca, M., Iaffaldano, P., Tacchino, A., Zaratin, P., Filippi, M., & Amato, M. (2025). Neurological Sciences, 46(2), 1013-1017.

PEDro-P Score: 7/10



Ratings

NeuroBITE also evaluates the methodological rigor (methodological quality) of primary studies that use a control condition to demonstrate the efficacy of a treatment. The primary studies involved are randomised controlled trials (RCTs), non-RCTs, and single-case experimental designs (SCEDs). Two method quality rating scales are used: the PEDro-P Scale to rate RCTs and nRCTs, and the Risk of Bias in N-of-1 Trials (RoBiNT) Scale to rate SCEDs. For more information, and to learn how to critically appraise studies using these scales, please visit our [Rating Information](#) and [Training](#) pages.

PEDro-P Scale

The PEDro-P Scale consists of 11 items (10 of which contribute to the total score). Often, complex (behavioural) intervention studies can only score a maximum of 8/10 because it is difficult to meet criteria on the two PEDro items for blinding participants and blinding therapists given the nature of behavioural interventions. For score interpretation, by convention, a score of 6 or more on the PEDro Scale is considered to reflect 'moderate' or 'good' methodological quality.

RoBiNT Scale

The RoBiNT Scale consists of two subscales: the Internal Validity (IV) Subscale (7 items) and the External Validity and Interpretation (EVI) Subscale (8 items). Items are rated on a 3-point scale (0-2), resulting in a maximum score of 14 for the IV Subscale, 16 for the EVI Subscale, and 30 for the total score. Score interpretation for the IV subscale, which reflects the methodological rigor (methodological quality) of a study, uses a validated algorithm, which is described in a supplement (Perdices, Tate & Rosenkoetter, 2019) to the RoBiNT Manual. The algorithm classifies the weighted scores of the seven IV Subscale items into six categories of methodological rigor, ranging from 'very high' to 'very low'.

