

April 2025

NeuroBITE

NEWSLETTER

Welcome to the April 2025 edition of the NeuroBITE newsletter!

Aloha NeuroBITERs!! This month we are STOKED to bring you the latest in neuro-rehabilitation interventions starting off with a surf-based intervention from The Netherlands, GNARLY! Being based on the sunny, East coast of Australia, there's nothing that NeuroBITE loves more than a SCED where the intervention is surfing, particularly one that is OPEN ACCESS.

Elsewhere in the Newsletter we have all the content you need covering a range of interventions including app-based mood tracking, virtual reality and other technology-based interventions, as well as various physical activity interventions. We cover diverse clinical populations including stroke/TBI, mild TBI, dementia and brain cancer. Five of the articles are open access and all are rated for method quality.

Remember to share the newsletter to any colleagues and surfing buddies you like and stay away from sharks. The only bites we want you to have are ... NeuroBITES ;)

Traumatic Brain Injury / Stroke

Riding waves to improve functioning: A quantitative evaluation of a Surf Week in individuals with chronic phase brain injury with six months follow-up.

Denneman, R. P., van Bezeij, T., Kal, E. C., Marshall, J., & Pisters, M. F. (2024). Disability and Rehabilitation, 46(25), 6097-6107. OPEN ACCESS

RoBiNT Score: 10/30

Computer-assisted rehabilitation shows greater efficacy than traditional in visuospatial skills and cognition in neglect patients.

Kim, W.-C., Jeong, Y.-J., Jeong, Y.-G., & Lee, K.-H. (2024). Journal of Motor Behavior, 56(4), 511-518.

PEDro-P Score: 7/10



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Alzheimer's Disease

Adapted problem adaptation therapy for depression in mild to moderate Alzheimer's disease dementia: A randomized controlled trial.

Howard, R., Cort, E., Rawlinson, C., Wiegand, M., Downey, A., Lawrence, V., Banerjee, S., Bentham, P., Fox, C., Harwood, R., Hunter, R., Livingston, G., Moniz-Cook, E., Panca, M., Raczek, M., Ivenso, C., Russell, G., Thomas, A., Wilkinson, P., Freemantle, N., & Gould, R. (2024). *Alzheimer's & Dementia*, 20(4), 2990-2999. **OPEN ACCESS**
PEDro-P Score: 8/10

Effect of an 8-week mindfulness meditation training program on psychological distress in caregivers and on behavioral and psychological symptoms in people with Alzheimer's disease: A randomized controlled trial.

Sanchez-Perez, A., Quesada-Rico, M. P., Mendialdua-Canales, D., Hurtado-Pomares, M., Navarrete-Munoz, E. M., Valera-Gran, D., Peral-Gomez, P., Gil, G. B., Millan, P. G., Gonzalez-Caballero, G., Chaves-Velez, C., & Goldin, P. (2024). *Mindfulness*, 15, 1289-1304. **OPEN ACCESS**
PEDro-P Score: 7/10

Dementia

Evaluating the impact of virtual reality on the behavioral and psychological symptoms of dementia and quality of life of inpatients with dementia in acute care: Randomized controlled trial (VRCT).

Appel, L., Appel, E., Kisonas, E., Lewis-Fung, S., Pardini, S., Rosenberg, J., Appel, J., & Smith, C. (2024). *Journal of Medical Internet Research*, 26(e51758), 1-24. **OPEN ACCESS**
PEDro-P Score: 6/10

Effects of a family caregiver-delivered multisensory cognitive stimulation intervention for older people with dementia during coronavirus 2019: A randomized controlled trial.

Kor, P. P. K., Parial, L. L., Yu, C. T. K., Liu, J. Y. W., Liu, D. P. M., & Hon, J. M. K. (2023). *The Gerontologist*, 64(2), 1-12. **OPEN ACCESS**
PEDro-P Score: 8/10



The feasibility of a sleep education program for informal dementia care dyads: A pilot randomized controlled trial.

Song, Y., Papazyan, A., Lee, D., Mitchell, M. N., McCurry, S. M., Irwin, M. R., Teng, E., Alessi, C. A., & Martin, J. L. (2024). *Journal of the American Geriatrics Society*, 72(4), 1207-1215.

PEDro-P Score: 7/10

Traumatic Brain Injury

Mood Tracker: A Randomized Controlled Trial of a Self-Monitoring Intervention for Emotional Distress After Traumatic Brain Injury.

Sherer, M., Juengst, S., Sander, A. M., Leon-Novelo, L., Liu, X., Bogaards, J., Chua, W., & Tran, K. (2025). *Journal of Head Trauma Rehabilitation*, 40(1), E13-E22.

PEDro-P Score: 5/10

Mild Traumatic Brain Injury

Moving from the clinic to telehealth during the COVID-19 pandemic - a pilot clinical trial comparing in-clinic rehabilitation versus telerehabilitation for persisting symptoms following a mild Traumatic brain injury.

Langevin, P., Fremont, P., Fait, P., Dube, M. O., & Roy, J. S. (2024). *Disability & Rehabilitation*, 46(13), 2880-2889.

PEDro-P Score: 3/10

Brain Cancer

The safety, feasibility, and efficacy of an 18-week exercise intervention for adults with primary brain cancer - the BRACE study.

Sandler, C. X., Gildea, G. C., Spence, R. R., Jones, T. L., Eliadis, P., Walker, D., Donaghue, A., Bettington, C., Keller, J., Pickersgill, D., Shevill, M., Biggs, V., Morrison, B., Jonker, F., Foote, M., Bashford, J., & Hayes, S. C. (2024). *Disability & Rehabilitation*, 46(11), 2317-2326. **OPEN ACCESS**



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'.

