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Neurorehabilitation and Neuropsychiatry

Current Awareness Bulletin October 2024

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Recently Published Research

Brain Injuries

Addressing the intensity of rehabilitation evidence-practice gap: rapid review, stakeholder perspectives and recommendations for upper limb rehabilitation after acquired brain injury
International Journal of Therapy and Rehabilitation, July 2024 *Open access*
Identifies methods used to facilitate high doses of upper limb practice in published trials, understand stakeholder perspectives of the barriers and enablers to these methods in hospital settings, and to synthesise findings to form an evidence-based action plan for rehabilitation professionals, service providers and adults living with an acquired brain injury.

A systematic literature review of the impact of impaired self-awareness on the process of rehabilitation in acquired brain injury
Brain Injury, August 2024 *Open access*
This review emphasizes the impact of ISA on various aspects/processes of rehabilitation in ABI and provides considerations of how clinicians might adapt interventions to manage these difficulties.

Barriers and enablers to physical activity for individuals living with traumatic brain injury: a mixed methods systematic review
Brain Injury July 2024 *Open access*
Summarizes barriers and enablers that individuals with traumatic brain injury experience when participating in physical activity.

Working towards consensus on the assessment of mood after severe acquired brain injury: Focus groups with UK-based professionals
Clinical Rehabilitation, October 2024 *Open access*
Results of the focus groups overlapped and were combined into a proposed circular and iterative model of assessment that includes: (pre) information gathering, (peri) assessment processes, and (post) treatment; with formulation being seen as a vital part of the process. Standardised measures were not recommended for use with this population.

Traumatic brain injury and sleep in military and veteran populations: A literature review
NeuroRehabilitation, August 2024 *Request a copy from the library*
Reviews TBI sleep wake disorder pathophysiology, comorbidities, diagnosis and treatment that have emerged over the past two decades.

Predictors of Psychiatric Hospitalization After Discharge from Inpatient Neurorehabilitation for Traumatic Brain Injury

Journal of Head Trauma Rehabilitation, September 2024

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Study findings suggest the limited utility of age, education, and pre-TBI substance use and mental health utilization in predicting post-TBI psychiatric hospitalization.

Return to Driving Following Moderate-to-Severe Traumatic Brain Injury: A TBI Model System Longitudinal Investigation

Journal of Head Trauma Rehabilitation, September 2024

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examine longitudinal patterns of return to driving, driving habits, and crash rates associated with moderate-to-severe traumatic brain injury.

Cognitive vulnerabilities and depressed mood in acquired brain injury

Neuropsychological Rehabilitation, September 2024 Open access

Observational study which examines two cognitive vulnerabilities – dysfunctional attitudes and autobiographical memory specificity - in a heterogeneous sample of individuals with chronic stage ABI, and exploree whether these are linked to depression symptoms and ongoing cognitive difficulties as in the general population.

Improving emotion regulation ability after brain injury: A systematic review of targeted interventions

Neuropsychological Rehabilitation, September 2024 Open access

Identifies and evaluates interventions designed to improve emotion regulation ability in adults with acquired brain injury.

An exploratory study of dialectical behaviour therapy for emotional dysregulation and challenging behaviours after acquired brain injury

NeuroRehabilitation, August 2024 Open access

This study raises important questions regarding the type of patients who can benefit from this intervention, necessary adaptations of dialectical behaviour therapy and the way it can help post-traumatic growth and identity reconstruction after ABI.

Multiple Sclerosis

Home-Based Balance Training on Balance and Mobility in Persons With Multiple Sclerosis: A Systematic Review and Meta-analysis

Archives of Physical Medicine and Rehabilitation, 2024 105(10):1971-1984

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Comparable results were found between home- and center-based balance training in terms of balance and mobility improvement. There was also no evidence for the superiority of home-based balance training over no training except for static steady-state balance.

Trajectories of self-reported fatigue following initiation of multiple sclerosis disease-modifying therapy

Journal of Neurology, Neurosurgery and Psychiatry, October 2024 Open access

Analyses data from the COMparison Between All immunoTherapies for Multiple Sclerosis a Swedish nationwide observational study in relapsing–remitting multiple sclerosis, to identify trajectories of fatigue and their association with physical disability following start of disease-modifying therapy.

Safety and efficacy of evobrutinib in relapsing multiple sclerosis (evolutionRMS1 and evolutionRMS2): two multicentre, randomised, double-blind, active-controlled, phase 3 trials

The Lancet Neurology, November 2024 *Request a copy from the library*

The efficacy of evobrutinib was not superior to that of teriflunomide. Together, efficacy and liver-related safety findings do not support the use of evobrutinib in people with relapsing MS.

Effects of Balance Exercise Interventions on Balance-Related Performance in People With Multiple Sclerosis: A Systematic Review and a Meta-Analysis of Randomized Controlled Trials

Neurorehabilitation and Neural Repair, August 2024 *Open access*

Investigates the effects of balance training on gait and dynamic balance outcomes.

Effect of serious games over conventional therapy in the rehabilitation of people with multiple sclerosis – a systematic review and meta-analysis

Disability and Rehabilitation, October 2024 *Request a copy from the library*

This review suggests, with a very-low-to-low certainty of evidence, that while some specific serious games may improve balance, fatigue and visuo-spatial memory, their overall effect on upper limb activity, gait, and other cognitive functions appears neutral.

Understanding progression in multiple sclerosis: analysis of an in-patient admissions audit

British Journal of Neuroscience Nursing, Sept 2024 *Access with your OpenAthens account*

Describes an audit which aimed to identify causes of in-patient admissions of people with multiple sclerosis at a district general hospital.

Long-term disability trajectories in multiple sclerosis: a group-based trajectory analysis of the AusLong cohort

Journal of Neurology, Neurosurgery and Psychiatry, September 2024 *Open access*

This study investigates heterogeneity in disability accumulation over 10 years following a first clinical diagnosis of central nervous system demyelination and identifies genetic, demographic, environmental and clinical factors associated with these trajectories.

The association between vitamin D deficiency and multiple sclerosis: an updated systematic review and meta-analysis

Multiple Sclerosis and Related Disorders, October 2024 *Open access*

Updated review showing that vitamin D deficiency is associated with an increased likelihood of multiple sclerosis. Maintaining sufficient vitamin D may be an important modifiable risk factor for MS.

Treatment continuation with cladribine at 5 years after initiation in people with multiple sclerosis: A case series and literature review

Multiple Sclerosis and Related Disorders, Oct 2024 *Request a copy from the library*

Describes the treatment history and outcomes of three people with MS retreated with cladribine, given as a third course 5 years after treatment initiation. Also includes a review of evidence on retreatment with cladribine from year 3 onwards and a discussion of patient selection criteria for retreatment.

Cost-effectiveness of neuropsychological rehabilitation for acquired brain injuries: Update of Stolwyk et al.'s (2019) review

Journal of Neuropsychology, August 2024 *Open access*

A scoping review to update the findings of Stolwyk et al. (Neuropsychological Rehabilitation, 2021, 31, 316), focusing on the economic evaluations of neuropsychological rehabilitation for individuals with ABI.

Prolonged Disorder of Consciousness

Neuromodulation and Disorders of Consciousness: Systematic Review and Pathophysiology

Neuromodulation, October 2024 *Open access*

While clinical outcomes were mixed and possibly confounded by natural recovery or pharmacologic interventions, deep brain stimulation appeared to facilitate greater improvements in DoC than other modalities. However, repetitive transcranial magnetic stimulation also demonstrated clinical potential with much lower invasiveness.

Stroke

Assistive technologies, including orthotic devices, for the management of contractures in adults after a stroke

Cochrane Database of Systematic Reviews, September 2024 *Open access*

It was not possible to draw firm conclusions on the effects of assistive technology compared with routine therapy or no therapy. It was also difficult to confirm whether there is a risk of harm associated with treatment using assistive technology. Future studies should apply adequate treatment intensity and use valid and reliable outcome measures.

Advanced rehabilitation in ischaemic stroke research

Stroke and Vascular Neurology, August 2024 *Open access*

Discusses different animal and in vitro models of ischaemic stroke for rehabilitation studies; the compound concept and technology of neurological rehabilitation; all kinds of biological mechanisms of physical therapy; the significance, assessment and efficacy of neurological rehabilitation; the application of brain–computer interface, rehabilitation robotic and non-invasive brain stimulation technology in stroke rehabilitation.

A systematic review and meta-analysis of randomized controlled trials to reduce burden, stress, and strain in informal stroke caregivers

Clinical Rehabilitation, August 2024 *Open access*

Explores the nature and effectiveness of interventions aimed at improving informal stroke caregiver burden, stress, and strain.

Stroke recovery—what are people talking about on Twitter? A content analysis

Disability and Rehabilitation, September 2024 *Open access*

Priority setting exercises are integral to improving patient care. Twitter is a useful source of data alongside more traditional in-person methods. Key areas of stroke care requiring attention include: psychological support; information sharing; treatment burden; equity of access to rehabilitation services; management of fatigue and aphasia.

Altered Corticospinal and Intracortical Excitability After Stroke: A Systematic Review With Meta-Analysis

Neurorehabilitation and Neural Repair, September 2024 *Request a copy from the library*

Findings indicate that stroke alters corticospinal and intracortical excitability measures. Alterations in short-interval intracortical inhibition and intracortical facilitation may reflect disinhibition of the motor cortex after stroke, which is contrary to the notion that stroke increases inhibition of the affected side.

Non-pharmacological interventions to treat mood disturbances post-stroke: a systematic review

Topics in Stroke Rehabilitation, September 2024 *Access with your OpenAthens account*

Evaluates the effectiveness of non-pharmacological interventions on the outcomes of depression, anxiety, and pseudobulbar affect in post-stroke individuals.

A systematic review of upper extremity outcome measures assessed in randomized controlled trials of post stroke upper extremity rehabilitation over time
Topics in Stroke Rehabilitation, September 2024 *Access with your OpenAthens account*
The authors review RCTs of post stroke upper extremity rehabilitation interventions to understand the use of UE outcome measures in research and their changes over time.

Other Neurological Diseases and Disorders

The meaning of apathy in Huntington's disease: A qualitative study of caregiver perspectives
Neuropsychological Rehabilitation, August 2024 *Open access*
UK study which explores the lived experience of 11 caregivers supporting someone with Huntington's disease and associated apathy.

Neurorehabilitation

Group interventions for people with primary progressive aphasia and their care partners: Considerations for clinical practice
Neuropsychological Rehabilitation, August 2024 *Open access*
This initial synthesis of the current state of the art in PPA therapy groups highlights several important considerations around candidacy, content and ecological validity of delivering group intervention for people with PPA.

Striking the Balance: Embracing Technology While Upholding Humanistic Principles in Neurorehabilitation
Neurorehabilitation and Neural Repair, July 2024
Critically examines the implications of technology in neurorehabilitation, drawing on discussions from the 2021 and 2024 World Congress for NeuroRehabilitation.

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New Books added to CNTW Libraries

Practical evidence-based physiotherapy (3rd edition)

Designed to help physiotherapists of all levels of expertise to use high quality research evidence in their clinical decision making. Written by an international team of experts and comprehensively updated in its third edition, the book considers how different sorts of evidence can be used to guide physiotherapy practice. It covers emerging methods, the use of both quantitative and qualitative research, and how to use online resources. Suitable for all levels of expertise - highlighted critical points and text box summaries (basic), detailed explanations in text (intermediate) and footnotes (advanced).

A Practical approach to movement disorders: diagnosis and management

New third edition of the practical guide to diagnosis and treatment of movement disorders. Written in an expanded outline format, this book is packed with flow charts, algorithms, and tables to provide quick access to point-of-care information. Easy-to-read and up to date, includes diagnostic and pharmacological approaches, behavioural issues, surgical approaches and non-pharmacological therapies.The final section on non-pharmacological approaches covers physical and occupational therapy, speech and swallowing therapy, nutrition, and palliative care.

Clinical neurology

Provides a comprehensive overview of basic and clinical neurology in a concise format. It links clinical neuroscience to current approaches for diagnosing and effectively treating neurologic disorders. Covering all the advances in molecular biology and genetics, this popular guide emphasizes history-taking and neurologic examination as the cornerstones of diagnosis. All information is thoroughly up-to-date and presented as a practice-oriented approach to neurology based on the patient's presenting symptoms or signs.

An introduction to coping with brain injury

New addition to the Introduction to Coping series of short primers on health conditions where CBT can benefit. This covers advice on the science behind different types of acquired brain injuries and CBT techniques that can help with gradual recovery. Can help clients and their families navigate through the complex and often unexpected challenges that can arise following a brain injury, using Cognitive rehabilitation approaches and Cognitive behavioural approaches.

Handbook of Spasticity: A Practical Approach to Management

This handbook fuses the fundamentals of spasticity with a case-based approach to enhance learning for those early into their career as well as practicing physiatrists, neurologists, nurses, physician assistants, and therapists who care for patients with spasticity. Assessment and evaluation measures are detailed, focusing on measurements and scales, gait assessment, and techniques for setting appropriate goals. A wide variety of treatment options available for spasticity patients are explored, including physical therapy, pharmacologic and non-pharmacologic treatments, emerging technologies, toxins, surgical options, and more.

Spinal cord injury: functional rehabilitation (4th edition)

Updated to present current best practices, reflecting recent evidence and clinical practice guidelines. This edition includes a greater focus on therapeutic approaches to restoring locomotor function in patients with the potential to regain ambulatory ability using lower extremity musculature. The text also addresses determining whether a given patient will benefit most from therapeutic interventions that stress compensation, restoration of normal movement patterns, or a blend of the two.