

TBI-CT Network Publications

[Journal of Head Trauma Rehabilitation](#) - Publish Ahead of Print March 9, 2010

Measuring Outcome in Traumatic Brain Injury Treatment Trials: Recommendations From the Traumatic Brain Injury Clinical Trials Network.

Bagiella, Emilia; Novack, Thomas A.; Ansel, Beth; Diaz-Arrastia, Ramon; Dikmen, Sureyya; Hart, Tessa; Temkin, Nancy

AB Background: Traumatic brain injury (TBI) involves several aspects of a patient's condition, including physical, mental, emotional, cognitive, social, and functional changes. Therefore, a clinical trial with individuals with TBI should consider outcome measures that reflect their global status. Methods: We present the work of the National Institute of Child Health and Development-sponsored Traumatic Brain Injury Clinical Trials Network Outcome Measures subcommittee and its choice of outcome measures for a phase III clinical trial of patients with complicated mild to severe TBI. Results: On the basis of theoretical and practical considerations, the subcommittee recommended the adoption of a core of 9 measures that cover 2 different areas of recovery: functional and cognitive. These measures are the Extended Glasgow Outcome Scale; the Controlled Oral Word Association Test; the Trail Making Test, Parts A and B; the California Verbal Learning Test-II; the Wechsler Adult Intelligence Scale-III Digit Span subtest; the Wechsler Adult Intelligence Scale-III Processing Speed Index; and the Stroop Color-Word Matching Test, Parts 1 and 2. Conclusions: The statistical methods proposed to analyze these measures using a global test procedure, along with research and methodological and regulatory issues involved with the use of multiple outcomes in a clinical trial, are discussed. (C) 2010 Lippincott Williams & Wilkins, Inc.

DOI: 10.1097/HTR.0b013e3181d27fe3

[J Neurotrauma](#). 2009 Dec;26(12):2207-16.

The citicoline brain injury treatment (COBRIT) trial: design and methods.

[Zafonte R](#), [Friedewald WT](#), [Lee SM](#), [Levin B](#), [Diaz-Arrastia R](#), [Ansel B](#), [Eisenberg H](#), [Timmons SD](#), [Temkin N](#), [Novack T](#), [Ricker J](#), [Merchant R](#), [Jallo J](#).

Department of Physical Medicine and Rehabilitation, Spaulding Rehabilitation Hospital, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA.

Traumatic brain injury (TBI) is a major cause of death and disability. In the United States alone approximately 1.4 million sustain a TBI each year, of which 50,000 people die, and over 200,000 are hospitalized. Despite numerous prior clinical trials no standard pharmacotherapy for the treatment of TBI has been established. Citicoline, a naturally occurring endogenous compound, offers the potential of neuroprotection, neurorecovery, and neurofacilitation to enhance recovery after TBI. Citicoline has a favorable side-effect profile in humans and several meta-analyses suggest a benefit of citicoline treatment in stroke and dementia. COBRIT is a randomized, double-blind, placebo-controlled, multi-center trial of the effects of 90 days of citicoline on functional outcome in patients with complicated mild, moderate, and severe TBI. In all, 1292 patients will be recruited over an estimated 32 months from eight clinical sites with random assignment to citicoline (1000 mg twice a day) or placebo (twice a day), administered enterally or orally. Functional outcomes are assessed at 30, 90, and 180 days after the day of randomization. The primary outcome consists of a set of measures that will be analyzed as a composite measure using a global test procedure at 90 days. The measures comprise the following core battery: the California Verbal Learning Test II; the Controlled Oral Word Association Test; Digit Span; Extended Glasgow Outcome Scale; the Processing Speed Index; Stroop Test part 1 and Stroop Test part 2; and Trail Making Test parts A and B. Secondary outcomes include survival, toxicity, and rate of recovery.

PMID: 19803786 [PubMed - in process]

[Neuropsychol Rehabil.](#) 2008 Jan;18(1):1-21.

The dilemma of the control condition in experience-based cognitive and behavioural treatment research.

[Hart T](#), [Fann JR](#), [Novack TA](#).

Department of Rehabilitation Medicine, Jefferson Medical College, Philadelphia, PA, USA.

thart@einstein.edu

Rehabilitation using cognitive and behavioural treatment methods (i.e., experience-based interventions) faces particular challenges in improving its evidence base through rigorous studies such as randomised controlled trials (RCTs). Experience-based treatments are often complex, with multiple "active ingredients" that may be difficult to characterise. In addition to the difficulty in specifying treatment ingredients, experience-based rehabilitation researchers face challenges in designing or selecting appropriate control or comparison conditions to test the efficacy of complex treatments. Based on lessons learned in designing a cognitive-behavioural intervention for anger self-management for people with traumatic brain injury (TBI) for the National Institutes of Health (NIH)-funded TBI Clinical Trials Network, we review the advantages, disadvantages and applications of a variety of control conditions for experience-based interventions. We discuss controls in which active treatments are withheld (no-treatment controls, waitlist controls, and placebo-analogue designs); controls that involve comparison to naturally occurring or devised usual care treatments; and conditions that compare active treatments (dismantling designs, dose controls, and equivalence trials). Recommendations for selecting and developing control groups that maximise both equipoise and participant enrolment/retention are discussed.

PMID: 17852761 [PubMed - indexed for MEDLINE]