

# Research Opportunities in the Area of Adults With Traumatic Brain Injury

## MeSH TERMS

- brain injuries
- evaluation studies as topic
- evidence-based practice
- occupational therapy
- research

The American Occupational Therapy Association (AOTA) Evidence-Based Practice Project has developed a table summarizing the research opportunities in the area of adults with traumatic brain injury. The table provides an overview of the state of current available evidence on interventions within the scope of occupational therapy practice and is based on the systematic reviews from the AOTA Practice Guidelines Series. Researchers, students, and clinicians can use this information in developing innovative research to answer important questions within the occupational therapy field.

American Occupational Therapy Association. (2016). Research opportunities in the area of adults with traumatic brain injury. *American Journal of Occupational Therapy*, 70, 7006400010. <http://dx.doi.org/10.5014/ajot.2016.706004>

Planning a research project requires consideration of many factors. Level of interest and knowledge in a specific area, access to appropriate populations of participants, support of mentors and other researchers, and funding availability all help determine the focus of a future project. An additional component to be considered is whether adequate, up-to-date research has already been completed on a topic; if sufficient evidence is available in a given core area, this area might not be the best choice for another research project.

The best research topic may be one in which either little research has been done or the research to date is insufficient, inconclusive, or mixed. In addition, when research conducted to date provides a low level of evidence and is of limited quality, additional high-quality research in the area is needed.

The “Research Opportunities Table in the Area of Adults With Traumatic Brain Injury” provides an overview of the state of current available evidence on interventions within the scope of occupational therapy practice. The table is based on the systematic reviews from the American Occupational Therapy Association’s (AOTA’s) Practice Guidelines Series. The table lists specific interventions and indicates either that the evidence is strong to support the intervention or that moderate, mixed, or few studies support the intervention and therefore it is a priority area for future research. Researchers, students, and clinicians can use this information in developing innovative research to answer important questions within the field of occupational therapy. Please refer to *Occupational Therapy Practice Guidelines for Adults With Traumatic Brain Injury* (Wheeler & Acord-Vira, 2016) and the May/June 2016 issue of the *American Journal of Occupational Therapy* (Powell, 2016) for more information on the topic area and the systematic review process. To access the tables online and search for research opportunities in other practice areas, visit <http://www.aota.org/researchopportunitiesables>.

Researchers are also encouraged to enter their projects into AOTA’s Researcher Database at <http://myaota.aota.org/research/>. This database provides AOTA with information such as relevant clinical settings and populations; *International Classification of Functioning, Disability and Health* level (World Health Organization, 2001); funder (if any); and key words to help guide research advocacy and policy initiatives. ▲

## Research Opportunities Table in the Area of Adults With Traumatic Brain Injury

Intervention	Strength of Evidence
Arousal and Alertness of People in a Coma or Persistent Vegetative State	
Multimodal sensory stimulation to improve arousal and enhance clinical outcomes	Strong evidence
Increased complexity, rather than intensity, of stimulation to increase intervention effectiveness	Area for future research
Motor Function	
Exercise programs (aquatic, hand, and standard [e.g., balance]) to improve motor function	Strong evidence
Computer-based interventions (e.g., virtual reality, gaming systems, 3D immersive games) to improve upper-extremity motor function and postural and dynamic balance	Area for future research
Rehabilitation and multidisciplinary rehabilitation programs to improve motor function	Area for future research
Cognitive Impairments	
General memory interventions (involving restorative and/or compensatory approaches) to improve memory	Strong evidence
Attention regulation interventions with or without goal or problem-solving training to improve attention and executive functioning	Strong evidence
Executive function strategy training such as goals management training and metacognitive strategy instruction to improve attention and executive functioning	Strong evidence
Training in encoding techniques to improve recall	Strong evidence
Training in use of cognitive assistive technology (except voice recorders and navigation devices) to improve memory	Strong evidence
Memory-specific compensatory approaches to improve memory	Strong evidence
Cognitive interventions to improve self-awareness	Area for future research
Computer-based interventions to enhance occupational performance	Area for future research
General restorative and/or compensatory approaches to improve attention and executive dysfunction	Area for future research
Visual and Visual–Perceptual Impairments	
Scanning training to improve search skills when measured with digit search, computer tests, and a functional search task	Strong evidence
Cognitive rehabilitation to improve performance in neuropsychological measures focused on visual perception	Strong evidence
Scanning training accompanied by a visual and/or auditory stimulus to improve visual search skills and reading performance	Area for future research
Vision therapy to remediate oculomotor signs and symptoms	Area for future research
Cognitive compensatory strategies such as pacing, chunking, and self-talk to improve ADL performance	Area for future research
Cognitive strategies focused on social skills training to improve the ability to name basic emotions, interpret comments, and determine whether a person is lying or being sarcastic	Area for future research
Psychosocial, Behavioral, or Emotional Impairments	
CBT interventions to address psychosocial, behavioral, and emotional impairments and to improve occupational performance	Strong evidence
Goal-directed outpatient rehabilitation to improve self-ratings of performance and satisfaction	Strong evidence
Goal-directed outpatient rehabilitation to improve goal attainment, occupational performance, psychosocial reintegration, and adjustment levels	Area for future research
Functional skills training to improve social participation, community reintegration, independent living, emotional well-being, and quality of life	Area for future research
CBT modified to include MBCT to decrease depression and motivational interviewing to improve anxiety	Area for future research
Aerobic exercise to improve self-esteem, depression, quality of life, and community activity	Area for future research
Group and individual-based education interventions to improve psychosocial, behavioral, and emotional skills and impairments	Area for future research
Social skills training interventions to improve occupational performance	Area for future research
Peer mentoring interventions to improve perception of community integration, levels of anxiety and depression, satisfaction with social integration, or social activity levels	Area for future research
CBT administered in the virtual context to address community integration and adaptive coping	Area for future research
Everyday Activities and Areas of Occupation and Social Participation	
Activity-based interventions focused on client-centered goals and delivered in a relevant environmental context to improve occupational performance	Area for future research
Multidisciplinary and interdisciplinary rehabilitation approaches to improve occupational performance and participation outcomes after moderate to severe TBI	Area for future research
Training in social behaviors and decoding emotions to improve partner-directed behaviors such as reciprocal conversation skills	Area for future research
Virtual reality driving rehabilitation program to improve simulated driving performance in steering on open roads, turning, reacting to unexpected driving hazards, and adhering to traffic laws	Area for future research
Social training programs to improve social participation	Area for future research

*Note.* ADL = activity of daily living; CBT = cognitive-behavioral therapy; MCBT = mindfulness-based cognitive-behavioral therapy; TBI = traumatic brain injury.

## Acknowledgments

This work is based on the May/June 2016 issue of the *American Journal of Occupational Therapy* (Powell, 2016) and the *Occupational Therapy Practice Guidelines for Adults With Traumatic Brain Injury* (Wheeler & Acord-Vira, 2016), developed in collaboration with the AOTA Evidence-Based Practice Project.

## References

- Powell, J. M. (Ed.). (2016). Special issue on occupational therapy for adults with traumatic brain injury [Special issue]. *American Journal of Occupational Therapy, 70*(3).
- Wheeler, S., & Acord-Vira, A. (2016). *Occupational therapy practice guidelines for adults with traumatic brain injury*. Bethesda, MD: AOTA Press.
- World Health Organization. (2001). *International classification of functioning, disability and health*. Geneva: Author.