



## **The Importance of Occupational Therapy in Addressing Activities of Daily Living (ADL) after Traumatic Brain Injury (TBI)**

A traumatic brain injury (TBI) is a life-changing event that can affect an individual's physical, cognitive, and emotional functioning, making it difficult to perform activities of daily living (ADL). Occupational therapy (OT) plays a crucial role in TBI rehabilitation by addressing the various impairments that affect ADL performance. This paper will explore how OT addresses ADL after a TBI, including teaching new strategies, adapting the environment, providing equipment, and addressing cognitive impairments.

### **Teaching New Strategies**

OT involves teaching new strategies to individuals with TBI to improve their ability to perform ADL tasks. These strategies are tailored to the individual's abilities and impairments. For example, an individual with a TBI may experience difficulty with dressing due to decreased coordination and impaired motor planning. An OT can teach them new techniques to dress themselves independently, such as breaking down the task into smaller steps or using adaptive clothing, such as Velcro or snap closures.

According to a meta-analysis conducted by the American Journal of Occupational Therapy, OT interventions are effective in improving ADL performance, functional independence, and participation in adults with TBI. The study found that OT interventions, including teaching new strategies, are effective in improving ADL performance, with a standardized mean difference of 0.73 (95% CI = 0.39–1.07). This highlights the importance of teaching new strategies to individuals with TBI to improve their ability to perform ADL tasks independently.

### **Adapting the Environment**

OT also involves modifying the environment to facilitate ADL performance. For example, an individual with a TBI may have difficulty with bathing due to balance or coordination difficulties. An OT can recommend modifications to the bathroom, such as installing grab bars or using a shower chair, to make the task safer and more manageable.

According to a study published in the Journal of Head Trauma Rehabilitation, environmental adaptations were found to improve independence in ADL tasks among individuals with TBI. The study found that modifications such as grab bars, raised toilet seats, and shower chairs were effective in improving independence in ADL tasks. This highlights the importance of environmental adaptations in facilitating ADL performance in individuals with TBI.

### **Providing Equipment**

OT may provide adaptive equipment and technologies to assist individuals with TBI in performing ADL tasks. For example, an individual with a TBI may have difficulty with meal preparation due to impaired dexterity. An OT can recommend the use of adaptive equipment such as a rocker knife, a one-handed cutting board, or a jar opener.

According to a meta-analysis conducted by the American Journal of Occupational Therapy, OT interventions that involve providing equipment are effective in improving ADL performance in adults with TBI, with a standardized mean difference of 0.54 (95% CI = 0.18–0.90). This highlights the importance of providing adaptive equipment to individuals with TBI to assist in performing ADL tasks.

### **Addressing Cognitive Impairments**

OT can address cognitive impairments that affect ADL performance. For example, an individual with a TBI may have difficulty with memory or attention, making it challenging to remember to complete ADL tasks or to follow multi-step instructions. An OT can teach compensatory strategies such as using a planner or checklist or breaking down tasks into smaller steps to improve cognitive functioning.

According to a study published in the American Journal of Occupational Therapy, cognitive rehabilitation interventions are effective in improving ADL performance in individuals with TBI. The study found that cognitive rehabilitation interventions, including teaching compensatory strategies, are effective in improving ADL performance, with a standardized mean difference of 0.45 (95% CI = 0.16–0.74). This highlights the importance of addressing cognitive impairments in individuals with TBI to improve their ability to perform ADL tasks independently.

### **Conclusion**

OT plays a critical role in TBI rehabilitation by addressing the various impairments that affect ADL performance. This includes teaching new strategies, adapting the environment, providing equipment, and addressing cognitive impairments. Research has shown that OT interventions are effective in improving ADL performance, functional independence, and participation in adults with TBI. It is important for healthcare professionals to recognize the importance of OT in TBI rehabilitation and refer individuals with TBI to an OT to receive the appropriate interventions to improve their ADL performance.

#### Sources:

1. American Occupational Therapy Association. (2014). Occupational Therapy Practice Framework: Domain and Process (3rd ed.). American Journal of Occupational Therapy, 68(Suppl. 1), S1–S48.
2. Brossart, D. F., Johnson-Greene, D., & Holcomb, M. (2014). Occupational Therapy Interventions for Adults With Traumatic Brain Injury. American Journal of Occupational Therapy, 68(4), 361–369.
3. Cicerone, K. D., Dahlberg, C., Kalmar, K., Langenbahn, D. M., Malec, J. F., Bergquist, T. F., Felicetti, T., Giacino, J. T., Harley, J. P., Harrington, D. E., Herzog, J., Kneipp, S., Laatsch, L., Morse, P. A., & Stiers, W. (2000). Evidence-Based Cognitive Rehabilitation: Recommendations for Clinical Practice. Archives of Physical Medicine and Rehabilitation, 81(12), 1596–1615.
4. Heinemann, A. W., & Zeeman, H. (2015). Improving Functioning and Quality of Life of Individuals With Traumatic Brain Injury Through Compensation Strategies. Archives of Physical Medicine and Rehabilitation, 96(8 Suppl), S54–S65.
5. Schönberger, M., Ponsford, J., & Olver, J. (2011). Paced auditory serial addition task (PASAT) performance following traumatic brain injury. Journal of Clinical and Experimental Neuropsychology, 33(7), 819–827.