

## **Employment Trajectories and Productivity Outcomes at 1-, 2-, and 5-Years Following Traumatic Brain Injury with Disorder of Consciousness**

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**Background/Objective:** Employment status is used both clinically and more broadly as a marker of functionality and independence. Patients who are undergoing rehabilitation for chronic illness or injury often consider return to work as a key milestone in recovery. Within the population of patients diagnosed with a Disorder of Consciousness (DoC), it is poorly understood what factors may contribute or hinder return-to-work. Our study aims to better understand the upstream and downstream determinants of employment status in patients with DoC.

**Methods:** Participants were individuals with traumatic brain injury enrolled into the TBIMS National Database. For the current retrospective, longitudinal study, participants also needed to be eligible for their 5-year follow-up window between June 25, 1998, and December 31, 2024, and have completed follow up interviews at 1-, 2-, and 5- years post-injury with complete employment data. Participants who were retired or age 65 or greater at the time of injury were excluded. Predictive analysis were used to assess what extenuating factors (age, education, injury type, etc.) preclude higher likelihood for return-to-work in patients with DoC.

**Results:** Employment, employability and productive participation gradually increase across years 1, 2, and 5 post-TBI. 15-17% of patients with DoC are employed by year 5 follow-up. Younger age and lower injury severity are associated with better long-term employment outcomes.

**Conclusion and Impact:** This study may contribute to prognostic counseling to patients and their loved ones, allowing for more accurate and better-informed decisions in the context of treatment options, quality of life, planning for the future and trust in the medical system.