

Recovery of Cognitive Functions during Multidisciplinary Rehabilitation after Severe Traumatic Brain Injury

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Objectives: Functional disorders affecting daily living activities are frequent in patients who emerge from coma after sustaining severe traumatic brain injury (TBI). These disorders usually result in impairment to memory, attention, reasoning, mental imagery, language problem-solving abilities or executive functioning, and require treatment to achieve functionality. Recent studies have proven the efficacy of functional rehabilitation for patients who have emerged from deep coma. There is substantial evidence supporting interventions for attention, memory, social communication skills, and executive functioning, and for comprehensive neuropsychological rehabilitation after TBI, designed to help the person recover maximum functionality nearing pre-injury level. However, the timing and duration of these interventions has not been established. Patients must spend hours at cognitive remediation tasks before any notable change can be achieved. In the search for TBI treatment, insurance companies, healthcare professionals, families, and patients are concerned with the duration of neurorehabilitation and whether it will be worthwhile. Different systematic reviews, have demonstrated that in-hospital cognitive rehabilitation for patients with moderate-to-severe TBI is more effective than at-home rehabilitation or no rehabilitation post-injury. **Methods:** An observational study involving 19 patients with traumatic brain injury recovered from coma who underwent holistic, intensive and multidisciplinary neurorehabilitation. Daily performance in each cognitive function (long-term memory, short-term memory, orientation, calculation, attention, mental control, automation, and planning) was clinically scored and compared at admission and discharge. **Results:** The course of cognitive recovery after post-traumatic coma is not uniform, offering a curve with many ups, downs and plateaus. To achieve a good response and outcome nearing normalcy, a patient needs over 300 h of intensive rehabilitation. **Conclusion:** The consolidation of functional recovery in patients with traumatic brain injury requires time and adequate training, and discharge is not recommended until cognitive improvement is established. **Key words:** cognitive functions; neuropsychological rehabilitation; neurorehabilitation; traumatic brain injury.