Acute Physical Therapy Treatment of a Patient with Anti-N-methyl-D-Aspartate Receptor (NMDAR) Encephalitis

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Background & Purpose: Anti-NMDAR Encephalitis is an acute, immunological syndrome caused by an autoimmune response. The disease has 3 stages. The first stage manifests in psychiatric or behavioral changes. The second is marked by decreased responsiveness leading to catatonia or autonomic instability. Neurological and motor changes noted in the third stage, with abnormal movement patterns such as dyskinesia or choreoathetosis warrant a hospital admission. The recovery process requires prolonged rehabilitation. The purpose of this case study is to review the disease process and clinical manifestations noted in a patient in the Acute Care setting. The role that Physical Therapy played in recovery and discharge planning will be described.

Case Description: The patient was a 21 year old female who was admitted to a hospital with changes in mental status. She was treated for viral meningitis and Epstein Barr. Three weeks after her initial hospitalization, she was brought to a second hospital with worsening cognition and psychological symptoms including sexual disinhibition and agitation. Testing revealed Anti-NMDAR Encephalitis.

Outcomes: The Acute Physical Therapy evaluation revealed perseverative behavior, impulsivity and motor restlessness. Deficits included impaired balance, proprioception and muscle strength. Functional limitations included decreased safety with transfers, mobility and activities of daily living. Therapy treatment focused on mobility, static and dynamic balance, strengthening and proprioceptive activities, re-direction to tasks and patient and caregiver education. Treatment occurred bedside to promote a low stimulation environment. The therapy staff recommended a discharge to an acute rehabilitation setting that specialized in brain injury. She demonstrated significant recovery and was discharged to the community. She received ongoing rehabilitation services and resumed her academic studies. One year later, she was readmitted to the hospital with a relapse. The Acute Physical Therapy evaluation revealed motor planning and balance impairments, in addition to cognitive and behavioral deficits. During this
admission, the treatment plan focused on functional mobility, dynamic balance activities and social activities that challenged the patient’s ability to scan, problem solve and multitask. Acute Physical Therapy made recommendations for discharge and the patient continued to receive care in an inpatient setting that specialized in her diagnosis.

**Discussion:** Acute Care Physical Therapists should address the physical and cognitive impairments found in patients with Anti-NMDAR Encephalitis. Therapists should emphasize cognitive retraining and promote education, in addition to therapeutic exercises, balance and proprioceptive activities. An interdisciplinary approach to care yields improved clinical outcomes for this patient population. Acute Care Physical Therapists are uniquely qualified to provide discharge planning recommendations for patients with this diagnosis.