Physical Therapy Intervention for Patient Status Post Antibiotic Hip Spacer With ICU Acquired Delirium

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AUTHORS: Coppola, Nicolina C.¹; Dack, Clodagh¹

AUTHORS/INSTITUTIONS: N.C. Coppola, C. Dack, Physical Therapy, Rusk Rehabilitation at NYU Langone Medical Center, New York, New York, UNITED STATES

Background & Purpose: Antibiotic joint spacers are the gold standard for treating prosthetic joint infections. While awaiting revision this procedure has potential to improve quality of life. However, there are associated risks of complications including increased disability, cost, and length of stay. Furthermore, following surgery and mechanical ventilation, older patients with multiple co-morbidities are at an increased risk of delirium in the ICU setting.

Consequences of acquiring delirium can include long-term cognitive impairments as well as increased long-term mortality. Therefore, implementation of evidence-based strategies to prevent or reduce delirium is imperative. PT management of patients s/p hip spacer placement presents with limited research and a current lack of mobility guidelines. This case study aims to demonstrate the potential of early mobility with PT in patients following placement of an antibiotic spacer, complicated by ICU acquired delirium.

Case Description: A 66 y/o male presented to ED with rigors and RLE pain. Past medical history was significant for right THR and cardiac arrhythmias. Following fluid cultures patient was diagnosed with sepsis secondary to right hip abscess. An articulating cement antibiotic hip spacer was exchanged for infected hardware and the patient was transferred to the medical ICU for management of sepsis. The patient remained intubated and sedated post-surgery for 9 days secondary to hemodynamic instability. PT intervention began post op day 7 focusing on chest PT, ROM, bed mobility, and strategies to reduce ICU-acquired delirium. The Confusion Assessment Method (CAM) was used daily to assess the presence of delirium. Initial mobility was limited and delayed due to a conflicting weight bearing status order from the surgical team. Ultimately patient status was confirmed as WBAT. Patient was seen 1-2 sessions per day, 7 days a week.

Outcomes: Patient responded positively to early mobility despite the presence of ongoing delirium challenging progression. The patient advanced functionally from dependent for all mobility to ambulating 120ft with a rolling walker and CGA over a 40-day ICU stay. The patient improved from positive to negative for delirium based on CAM score over the course of PT intervention.

Discussion: Progression of functional mobility was limited by ongoing fluctuating delirium spanning course of 31 days. Barriers to treatment included conflicting weight bearing status due to lack of established mobility guidelines, hemodynamic instability, and patient cognition. Despite the above barriers, strategies to address delirium in addition to early mobility resulted in positive functional outcomes and improved mental status. This case study demonstrates the potential of early mobility to restore function in
patients s/p antibiotic hip spacer implantation, complicated by ICU acquired delirium.