Occupational Therapy in the Intensive Care Unit

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Introduction

Hospitals in America are seeing a rise in the number of inpatient cardiac surgeries, increasing from 5,939,000 in 2000 to 7,688,000 in 2010 (Mozaffarian et al., 2015). As more patients require cardiac surgery, occupational therapy services are needed in the intensive care unit (ICU) to facilitate patients’ return to their daily lives. Due to the nature of cardiac surgery, patients’ physical, cognitive, and psychosocial well-being may be affected. Occupational therapists use a holistic approach to healthcare by addressing the entire person. This supports the inclusion of assessment tools for physical, cognitive, and psychosocial factors in the ICU during recovering. Addressing these three factors may promote overall health and well-being, as well as increase participation in meaningful occupations.

Psychosocial Factors

Patients that undergo cardiac surgery are at an increased risk for developing depression and anxiety which may have long-lasting symptoms that may negatively impact their quality of life (Papparipoulos et al., 2013). Literature has shown the prevalence of depression to be 23% and anxiety to be 45.5% post cardiac surgery (Pirraglia et al., 1999; Tully, Baker, Turnbull, & Winfield, 2006).

Evidence shows patients of undergoing cardiac surgery have 25% more symptoms of depression and anxiety than the patient themselves (Bunzel et al. 2007).

To identify impairments in psychosocial functioning, the Hospital Anxiety and Depression Scale (HADS) may be administered to patients. The HADS demonstrates high validity, specificity, and sensitivity to both anxiety and depressive symptoms (Bjelland, Dahl, Haug, & Neckelmann, 2002).

To address anxiety and depression in patients that undergo cardiac surgery, psychosocial education and music therapy are both supported by evidence. Patients and partners who received psychosocial education had decreased anxiety and depression, as well as a significant improvement well-being (Agrén, Berg, Svědlová, & Střomberg, 2015). Implementing music therapy post cardiac surgery significantly reduced pain and anxiety in patients undergoing cardiac surgery (Sendelbach, Halm, Doran, Miller, & Galiaire, 2006).

Statement of Purpose

An evidence-based clinical pathway ensures that the most appropriate and effective guidelines, assessments, and interventions are implemented to create consistent and unbiased care, facilitate patients’ return to their highest level of function, and improve patients’ overall quality of life. Therefore, the goal of this project was to propose a clinical pathway for the occupational therapy department at Pittsfield Peninsula Medical Center, located in Ewing, NJ. The proposed clinical pathway addresses common functional, physical, and psychosocial factors that may arise in patients post cardiac surgery during their stay in the ICU and step-down unit.

Clinical Pathway for Intensive Care Unit

The purpose of the proposed occupational therapy evidence based clinical pathway at Pittsfield Peninsula Medical Center is to provide a clinical guide for occupational therapy interventions for patients post cardiac surgery on the intensive care and step-down units. The clinical pathway addresses common functional, physical, and psychosocial factors that may arise in patients post cardiac surgery and creates a standard for consistent and effective treatment.

Guidelines

- Follow hospital’s standard care pathway
- Apply anxiety and depression screening tools (e.g., HADS) on admission
- Begin early intervention (within 24 h)
- Set a discharging date

Day 1: Transfer to Step-Down Unit

Educate
- General education - education of patient and family
- Education and explanation of treatment procedures
- Education regarding the patient’s medical condition
- Education regarding the patient’s admission
- Education regarding the patient’s medications
- Education regarding the patient’s condition
- Education regarding the patient’s outcome
- Education regarding the patient’s discharge

Early Education
- Education regarding the patient’s medical condition
- Education regarding the patient’s admission
- Education regarding the patient’s medications
- Education regarding the patient’s condition
- Education regarding the patient’s outcome
- Education regarding the patient’s discharge

Programs
- Program - early intervention
- Program - physical therapy
- Program - occupational therapy

Cognitive Factors

Early identification of mild cognitive impairment (MCI) in patients that undergo cardiac surgery should occur prior to discharge from acute care. In a longitudinal study that followed 261 patients post coronary artery bypass graft (CABG), the incidence of cognitive decline was 53% at discharge, 36% at 6 weeks after surgery, 24% at 6 months after surgery, and 42% at five years after surgery (Nesbitt et al., 2007). Nevertheless, McGren, Lundqvist, Nordlund, Arend, and Ruberg (2003) found that patients post CABG experienced impairments in attention and brain behavior during an on-the-road test, Ajayi, Albyakr, Guzeloglu, Baysak, and Hazan (2013) found that patients post CABG experienced noncompliance with respiratory exercises and an increased difficulty in learning management of inhalers as a result of MCI. Both studies demonstrate the significant impact MCI has on safety.

Cameron, Carter, Page, Stewart, and Ski (2013) compared the Mini Mental State Exam (MMSE) and the Montreal Cognitive Assessment (MoCA) and found that the MoCA classification of 41% of patients with heart failure as cognitively impaired that were not classified as having MCI by the MMSE.

Physical Factors

The inclusion of early mobilization in occupational therapy intervention for patients post cardiac surgery in the ICU is supported by current literature. Studies show early mobilization may reduce the effects of disuse muscle atrophy by maintaining or improving patients functional participation, endurance, and muscle strength (Citerio et al., 2015; Fan, 2012; Nordon-Craft et al., 2012). The progression of early mobilization in the ICU may be guided by Metabolic Equivalent of Task (vO2), vital signs, and patient’s effort (Joo et al., 2004; Preston & Flynn, 2010; Savage, Toth, & Ades, 2007).

Sternal instability may result in pain that limits patients’ ability to perform daily tasks (El-Ansary, Waddington, & Adams, 2007; Kun & Kribin, 2009; Olbrecht et al., 2006; Tuyt, Mackney, & Johnston, 2012). To address this concern, physical therapy supports the inclusion of thoracic exercises and preoperative sternal precautions to facilitate proper healing of the sternum and return 41% of patients with heart failure to occupational participation (Brocki, Thorup, & Andreasen, 2010; Cahalil et al., 2011; Sturgess, Denehy, Tully, & El-Ansary, 2014).

PROGRESSION OF REHABILITATION

DISCHARGE