

**Project Title**

Physiotherapy-led early rehabilitation from critical care to hospital discharge

**Project Lead and Members**

Project lead: Jaclyn Chow

Project members: Ng Yan Ying, Gan Yi Ming

**Organisation(s) Involved**

Tan Tock Seng Hospital

**Project Period**

Start date: 05-2018

Completed date: 12-2018

**Aims**

To examine current physiotherapy mobilisation practice across a sample of surgical ICU patients and review progression of rehabilitation after ICU discharge to general ward

**Background**

Early mobilisation within the critical care environment has been shown to improve patient functional outcomes after discharge from the intensive care unit (ICU) (Castro Avila et al,2015). This has been implemented in the surgical intensive care unit as routine practice in Tan Tock Seng Hospital since 2014. Following implementation, continued improvements were achieved in mobilisation rates, with 100 of all eligible patients being mobilised within the ICU from 2016. Going beyond ICU mobilisation rates, timing of early initiation within a time frame of 7days (Castro Avila et al, 2015) as well as functional recovery beyond the ICU are important contributions to overall success of patient outcomes. In this audit, current TTSH mobilisation practice in the surgical ICU was compared to published ICU mobilisation standards to examine adherence to evidence based practice as well as review the continuity of care and eventual functional outcomes of ICU survivors post ICU discharge

**Methods**

A retrospective descriptive clinical audit were conducted for all patients eligible for mobilisation in Tan Tock Seng Hospital (TTSH) Surgical ICU from May 2018 to December 2018.

Eligibility for mobilisation primarily relates to the stability of their medical condition. Time to first mobilisation, mobilisation milestone achieved, progression of mobility assistance using the Functional Status Score for the ICU (FSS-ICU) and ambulation distance were measured.

## Results

92 patients met the mobilisation criteria. 84% of them were mobilised within 48 hours of admission with a time to first mobilisation of median (IQR) of 2(1-4) days. The maximum levels of mobilisation achieved were sitting out of bed (n = 47, 51%) and walking (n= 45, 49%). From the last achieved milestone in ICU, all patients continued rehabilitation in the GW achieving improvement in mobility assistance from a mean (SD) FSS-ICU score of 17(6) at ICU discharge to 30(8) before hospital discharge. Ambulation improved from median (IQR) distance of 16 (8-40) m in the ICU to 60 (30 – 120) m by GW discharge. Amid improvements, systemic gaps in continuity of rehabilitation were highlighted and required further analysis.

## Lessons Learnt

- 1) Importance of identifying key relevant outcomes that can reflect change which is intervention specific so that results are directly reflective of the effects of the intervention itself. This helps to minimise other variables that may contribute to the overall result, yet not reflective of the effects of the true intervention.
- 2) There is also a need to continue to evaluate the success of established practice and not take for granted that as long as something is in place, it means that it is going well or that it is comparable to the standards of others. It is still important to take a step back and examine current practice in order to identify gaps that may be present and improve on them to ensure continued optimal clinical outcomes.
- 3) Deciding on relevant data you need early so as to avoid wasting too much time going back to gather data that you have missed out on.

## Conclusion

Mobilisation rates at TTSH SICU compares favourably to published rates of initial mobilisation of ICU patients within 48 hours. These patients continued to progress optimally, with significant improvement in mobility assistance and ambulation distance. In the process, we noted a paucity of literature on the progression and pre-discharge mobility goals of post-surgery patients. Further study is planned.

**Project Category**

Clinical Improvement

**Keywords**

Clinical Improvement, Rehabilitation Therapy, Functional Outcome, Discharge Planning, Continuity of Care, Research, Allied Health, Surgery, Tan Tock Seng Hospital, Clinical Audit, Physiotherapy, Early Mobilisation, Mobility, Ambulation, Functional Status Score, Intensive Care Unit

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## Project Attachment

### PHYSIOTHERAPY-LED EARLY REHABILITATION FROM CRITICAL CARE TO HOSPITAL DISCHARGE

**Chow JJJ, Ng YY & Gan YM, Tan Tock Seng Hospital, Singapore**

**Background:** Early mobilisation within the critical care environment has shown to improve patient functional outcomes. Following a head start, continuity of rehabilitation is important after discharge from the intensive care unit (ICU). Our aim was to examine current physiotherapy mobilisation practice across a sample of surgical ICU patients and progression of rehabilitation after ICU discharge to general ward (GW).

**Materials and methods:** A retrospective descriptive clinical audit were conducted for all patients eligible for mobilisation in Tan Tock Seng Hospital (TTSH) Surgical ICU from May 2018 to December 2018. Eligibility for mobilisation primarily relates to the stability of their medical condition. Time to first mobilisation, mobilisation milestone achieved, progression of mobility assistance using the Functional Status Score for the ICU (FSS-ICU) and ambulation distance were measured.

**Results:** 92 patients met the mobilisation criteria. 84% of them were mobilised within 48 hours of admission with a time to first mobilisation of median (IQR) of 2(1-4) days. The maximum levels of mobilisation achieved were sitting out of bed (n = 47, 51%) and walking (n= 45, 49%). From the last achieved milestone in ICU, all patients continued rehabilitation in the GW achieving improvement in mobility assistance from a mean (SD) FSS-ICU score of 17(6) at ICU discharge to 30(8) before hospital discharge. Ambulation improved from median (IQR) distance of 16 (8-40) m in the ICU to 60 (30 – 120) m by GW discharge. Amid improvements, systemic gaps in continuity of rehabilitation were highlighted and required further analysis.

#### **Conclusion:**

Mobilisation rates at TTSH SICU compares favourably to published rates of initial mobilisation of ICU patients within 48 hours. These patients continued to progress optimally, with significant improvement in mobility assistance and ambulation distance. In the process, we noted a paucity of literature on the progression and pre-discharge mobility goals of post-surgery patients. Further study is planned.