



## Abstract

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Safety of early mobilisation in patients post- cardiac surgery actively supported with vasoactive medications: a service evaluation

<sup>1</sup>Ee Ling Chua,<sup>2</sup>Carol Montgomery ,<sup>3</sup>Harriet Shannon

<sup>1</sup>, National Heart Centre Singapore, Singapore

<sup>2</sup>Physiotherapy, Lewisham and Greenwich NHS Trust, United Kingdom

<sup>3</sup>Physiotherapy, University College of London, United Kingdom

### Objectives:

Ischaemic heart disease is one of the top three causes of mortality in Singapore. Despite advances in open heart surgical techniques, patients with multi-morbidities may still require vasoactive medication support peri- and post-operatively. Early mobilization, within 72 hours post-surgery, has shown to reduce complications of intensive care-acquired weakness. However, the prevalence of early mobilisation remains low and the fear of adverse events and presence of vasoactive medications remained as key barriers to initiating physiotherapy rehabilitation.

The study aimed to describe, in patients receiving vasoactive medications, the rate of adverse events during mobilisation. The ICU Mobility Scale was used to rate the highest mobilisation level and distance ambulated during each physiotherapy session was recorded.

### Methods:

A prospective service evaluation was undertaken in National Heart Centre Singapore's Cardiothoracic ICU. Regular weekday physiotherapy sessions were carried out according to the unit's workflow. Information such as the amount of vasoactive medication administered, intensity of mobilisation and rate of adverse events were recorded to determine the safety and efficacy of the workflow.

### Results:

Data were collected on 37 patients for 54 sessions of early mobilisation. A total of 7 (12.5%) adverse events were recorded in patients from low and moderate dose group, during out-of-bed mobilisation. Sub-group analysis showed no significant difference between low dose and moderate dose group ( $p=0.882$ ) on the rate of adverse events. Reversible hypotension was recorded in six out of the seven (86%) adverse events. Patients supported on low and moderate doses of vasoactive medications were able to mobilise over the same distance (median=30m). All patients in the high dose group were able to perform in-bed mobilisation safely.

### Conclusions:

Vasoactive medications should not be a contraindication to early mobilisation. However, further studies are required to evaluate the safety of out-of-bed mobilisation in patients supported on high dose vasoactive medication.

	Number of sessions (n=54)	Number of adverse events (n=7)	Rate of adverse events
Low dose			
In-bed mobilisation	2	0	0%
Out-of-bed mobilisation	26	5	9.3%
Moderate dose			
In-bed mobilisation	4	0	0%
Out-of-bed mobilisation	17	2	3.7%
High dose			
In-bed mobilisation	5	0	0%
Out-of-bed mobilisation	0	0	0%