



# Early ambulation following abdominal surgery: Current practice at the Princess Alexandra Hospital.

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## Introduction

Enhanced Recovery After Surgery protocols are known to optimise patient outcomes including reduced length of stay (LOS). Early ambulation is recommended as soon as possible following abdominal surgery to preserve muscle function and prevent complications associated with bed rest. Physiotherapists are often the first to assist ambulation following abdominal surgery. Previous Australian data reports that 48% of patients were assisted by physiotherapist to mobilise out of bed on the first postoperative day after upper abdominal surgery.<sup>1</sup>

## Research objectives

The aim of this study was to describe the incidence of physiotherapy-led early ambulation following abdominal surgery at the Princess Alexandra Hospital (PAH).

## Methods

Secondary analysis of PAH data within a multicentre prospective cohort study. Participants were adults who had major abdominal surgery at the PAH in 2018. The proportion of participants who ambulated with physiotherapist on the day of operation and the first postoperative day was calculated.

## Results

The average age of participants was 58 years, 194 (62%) were male. Table 1 lists baseline and clinical characteristics of the participants.

Table 1 Demographic	N =314
Age, y (SD)	58 (15)
Male	194 (62%)
BMI kg/cm <sup>2</sup>	28
Upper Abdominal surgery	218 (70%)
Emergent Surgery	68 (22%)
Anaesthesia duration (hours)	5.18
Open incision	278 (88%)
Out of theatre by midday	39 (12%)
Patients intubated:	
Day 0	103 (33%)
Day 1	58 (18.5%)

Of 314 participants, 5 (1.5%) and 218 (69%) ambulated with a physiotherapist on the day of operation and first postoperative day respectively. Surgery was completed prior to midday in 39 (12%) and 58 (19%) remained intubated on the first postoperative day. Graph 1 shows the median length of stay for those who ambulated compared to those who did not ambulate by the first postoperative day was 11 and 23 days respectively.

## Discussion

Very few participants mobilised on the day of operation. This may reflect late return to the ward following surgery with 275 (87%) remaining in theatre until after midday. Despite this, if physiotherapy on the first postoperative day occurred prior to midday, ambulation may have occurred within 24 hours of surgery.

Day of surgery ambulation following colorectal surgery with physiotherapists located in the post anaesthetic care unit has been described, however further research is indicated to demonstrate benefit.

Shorter surgical time, immediate postoperative extubation and location of incision may be associated with successful early ambulation. A higher percentage of patients ambulated on the first postoperative day following lower abdominal surgery 71 (78%) compared to upper abdominal population 146 (60%).

Early ambulation is associated with a shorter length of stay. Ambulation rates on the first postoperative day with physiotherapists at PAH exceed previously reported rates in Australia of 48%. Whether additional resources such as an evening physiotherapy shift, to target ambulation on the day of operation would further increase early ambulation rates and result in length of stay reductions requires further study.

## Limitations

Time of therapy and ambulation parameters such as time, distance and frequency were not collected. Timing and dosage of ambulation may impact outcomes such as length of stay.

## Conclusion

Following abdominal surgery at Princess Alexandra Hospital ambulation with a physiotherapist by the first postoperative day occurred in nearly 70% of participants.

Comparison with international sites is planned.

## References

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Graph 1: Length of stay by ambulation status

