

Fowlers Study

G Howson, L Sweeney, R Mainland, D Buchan, F Welsh.

Gary.Howson@gjnh.scot.nhs.uk

Golden Jubilee University Hospital, Agamemnon Street, Clydebank, G81 4DY

Introduction/background

Enhanced recovery pathways aim to reduce a patient's recovery time following surgery, and improve patient outcomes. Early mobilisation and physiotherapy are key elements of a successful enhanced recovery after surgery program. Physiotherapy is recommended on the day of surgery and as early as 2–6 hours post operatively (Kaye et al, 2019).

The Golden Jubilee National Hospital (GJNH) conventionally recovers patients in a hospital bed, with patients mobilising as clinically able in 11.8 hours on average post operatively. The Fowler's study chose to recover patients in an appropriate medical recliner chair. Reducing the horizontal interval has been proven to have a positive impact on nausea (Fathi et al, 2014), eating and drinking (Alghadir et al, 2017) and post operative hypotension (Palma & Kaufmann, 2020).

Aim

To analyse patient recovery post operatively in the Fowler's position, to determine if it can contribute to improvements in post-operative recovery by comparing hypotension, nausea & vomiting, early mobilisation and length of stay rates.

Method

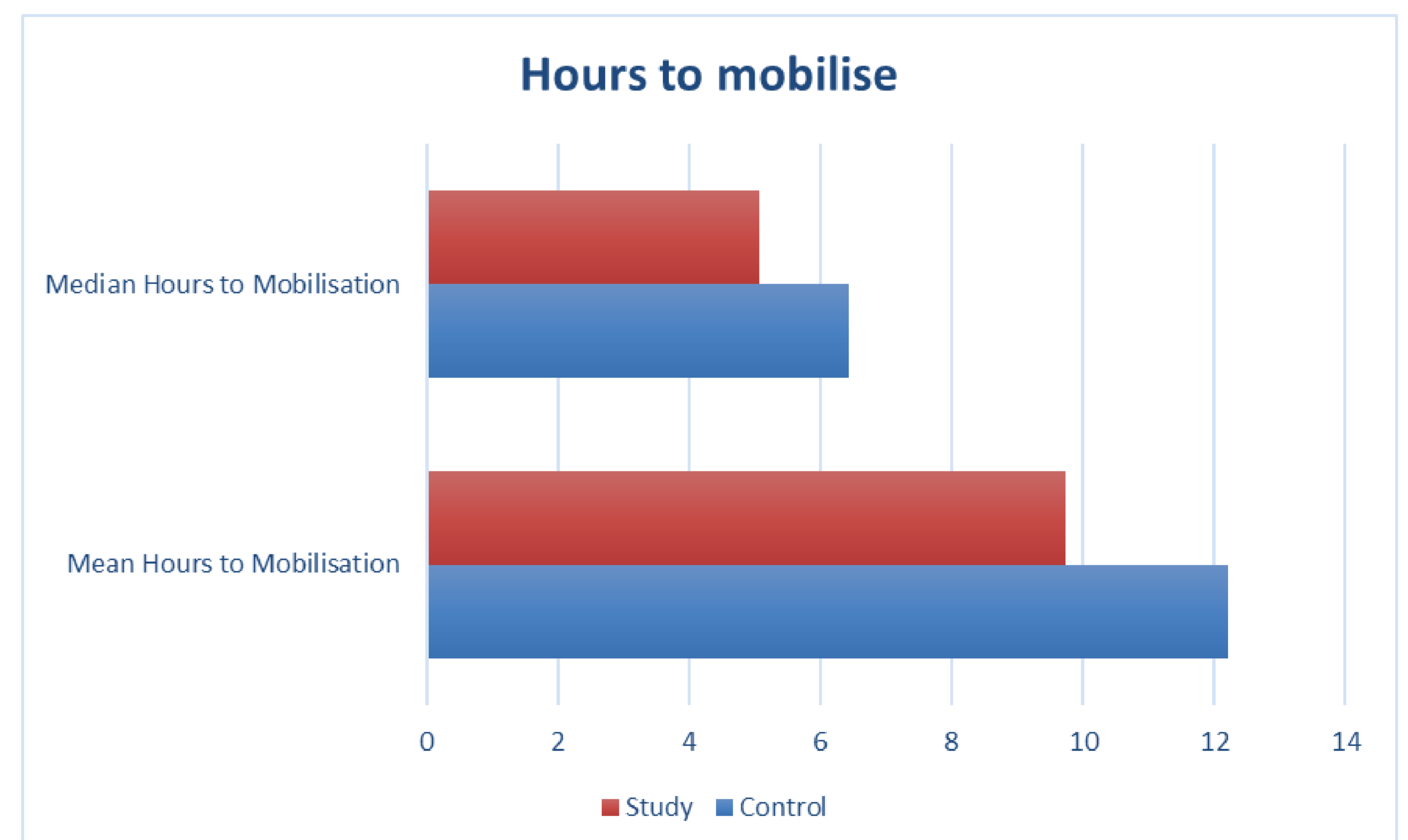
We performed a case-control study, collecting data on two hundred and forty patients undergoing elective orthopaedic surgery in our organisation between September 2023 and April 2024. We examined patient demographics, operation, post-operative blood sodium results, analgesia, admission times, mobilisation times and discharge times. Two groups comprised of matched patients following the traditional bed recovery method undergoing elective orthopaedic procedures and patients that were recovered in recliner chairs post operatively. Elective orthopaedic procedures included total hip and knee replacements, patients were either 1st or 2nd on the theatre list unless deemed to be excluded. Exclusion criteria across both groups included complex surgery, revision surgery, list position 3rd/4th and patients deemed inappropriate for early mobilisation.



Results

Data recording length of time to mobilise 3 meters post procedure was recorded. A two-sample t-test was performed to compare hours to mobilise between control and study groups. There was a significant difference in time to mobilise in the control (M = 12.20, SD 11.14) and study groups (M = 9.74, SD 9.8). A difference of 22% between groups.

Patients deemed fit for discharge by achieving all discharge criteria. Control group patients had a mean length of stay (LOS) to being deemed fit for discharge of 69.5 hours (M = 72.8, SD 36.7), in comparison the study group LOS to being deemed fit for discharge was 57.8 hours (M = 61, SD 24.7). This represents a mean saving of 11.8 hours or 18% reduction fit for discharge LOS. Patient feedback was obtained. 91% of study patients believed they would mobilise in the day of their surgery, compared to 47% of the control group. Patients' ability to eat, drink and comfort levels were obtained. Although not statistically significant, patients were more comfortable, and found it easier to eat and drink in the study group.



Conclusion

Whilst mobilisation rates have improved dramatically in the last ten years, challenges remain, and there are future research challenges in order to improve our understanding of the pathophysiology of factors effecting recovery (ERAS Society, 2023). The Fowler's audit and the use of recliner chairs to enhance post operative recovery has been shown to have a positive impact on patients' recuperation. This has also supported the wider ERAS goals in reducing LOS and increasing early mobilisation. However, based upon this audit the effectiveness of recovery in the fowlers position has been shown to reduce LOS by 11.8 hours or 18%. This audit indicates that recovery in the Fowler's position may result in quicker recovery, which in turn can lead to a reduced length of stay and possibly a reduction in costs.

References

- Faith, M., Nasrabadi, A.N. and Valiee, S. (2014) 'The effects of body position on Chemotherapy-Induced nausea and vomiting: a Single-Blind randomized controlled trial', *Iranian Red Crescent Medical Journal*, 16(6). <https://doi.org/10.5812/ircmj.17778>.
- Alghadir, A.H. et al. (2017) 'Effect of posture on swallowing', *African Health Sciences*, 17(1), p. 133. <https://doi.org/10.4314/ahs.v17i1.17>.
- Kaye, A.D. et al. (2019b) 'Enhanced recovery pathways in orthopedic surgery', *Journal of Anaesthesiology Clinical Pharmacology*, 35(5), p.35. https://doi.org/10.4103/joacp.joacp_35_18.
- Palma, J. and Kaufmann, H. (2020) 'Management of orthostatic hypotension', *CONTINUUM: Lifelong Learning in Neurology*, 26(1), pp. 154–177. <https://doi.org/10.1212/con.0000000000000816>.
- Orthopaedics - ERAS® Society (2021). <https://erasociety.org/specialty/orthopaedics/>.