Does Early Mobilization in Total Knee or Total Hip Replacements Decrease Length of Stay in Hospital?

OTAGO POLYTECHNIC
Te Kura Matatini ki Otago

Introduction

New Zealand has an aging population with an increased demand for joint replacements (Hooper, 2013). This consequently creates a significant socioeconomic increase for hospital resources, money and time. It is presumed that early mobilization contributes to shorter hospitalizations, because of its association with quicker return to lower limb function, reduced risk of postoperative complications including deep vein thrombosis, pulmonary embolism and hospital aquired infectons, ultimately reducing costs.

These known benefits of early mobilization lead this review to evaluate evidence based, current and relevant literature around early mobilization in lower limb joint replacements and length of stay. The research question was:

Does Early Mobilization in Total Knee or Total Hip Replacements decrease length of stay in Hospital?

Literature Review

The literature reviewed provided evidence that early mobilization in total knee or total hip replacements decreases hospital length of stay. The findings of Tayrose et al. (2013) and Juliano et al. (2010) reported that mobilization on the day of surgery was associated with decreased length of stay in hospital. The studies also presented with similar results and commented that early mobilization did not compromise or exacerbate any post-operative complications. They evaluated that the initiation of new clinical pathways including mobilization on the day of surgery was successful in reducing the average length of stay in days.

The Enhanced Recovery After Surgery (ERAS) programme is currently implemented into practice in 18 of the 20 District Health Boards throughout New Zealand. This patient centered evidenced based programme has the goal of enabling patients to recover from surgery faster. This is achieved by ensuring that patients participate in the best possible rehabilitation after surgery. One of the core principles, which is a contributing factor to its success, is early mobilization on the day of surgery. The programme has found to improve quality of patient care and consequently decreasing the length of stay in hospital within the orthopedic department (Ministry of Health, 2015).

Recommendations for Early Mobilization

- Pain is very subjective to the patient and in order to safely mobilize patients, pain needs to be under control. Certain other medications can have side effects that influence patient outcomes including nausea and vomiting. These side effects need to be minimized, monitored and assessed regularly. I would recommend regularly evaluating and reassessing these factors prior to mobilization.
- Educate the patient on the importance of early mobilization. Informing the patient will enable them to make informed decisions and enable partnership to occur.
- Nurses and physiotherapists are both responsible in the early mobilization of a patient (Ministry of Health, 2015). I would recommend collaboratively working alongside both the patient and physiotherapists in order to achieve desired outcomes determined by the patient, through shared and integrated knowledge.

Limitations

We need to keep in mind the implications for practice that not all patients can tolerate mobilization on the same day of surgery. This is due to various medical reasons and these patients should be assessed case by case, however prolonged mobilization can result in serious complications and increased length of stay.

Through incorporating these recommendations into nursing practice, as nurses we could effectively reduce post-operative complications, hospital length of stay and maximize patient satisfaction

References

Hooper. (2013). The ageing population and the increasing demand for joint replacement. *The New Zealand Medical Journal.* 126, 1377.

Juliano, K., Edwards, D., Spinello, D., Capizzano, Y., Epelman, E., Kalowitz, J., … Ghomrawi, H. (2010). Initiating Physical Therapy on the Day of Surgery Decreases Length of Stay Without Compromising Functional Outcomes Following Total Hip Arthroplasty. *Hospital for Special Surgery Journal,* 7: 16-20. Doi 10.1007/s11420-010-9167-y

Ministry of Health. (2015). *Enhanced Recovery After Surgery*. Retrieved from http://www.health.govt.nz/our-work/hospitals-and-specialist-care/enhanced-recovery-after-surgery

Tayrose, G., Newman, D., Slover, J., Jaffe, F., Hunter, T., & Bosco, J. (2013). Rapid Mobilization Decreases Length-of-Stay in Joint Replacement Patients. *Bulletin of the Hospital for Joint Diseases,* 71(3), 222-6

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Table.1: PECOT model.

PECOT category	Information relating to question	Explanation
Population	Adult patients who either had a total knee or total hip replacement.	This population was selected as it is the largest elective service within New Zealand and affects those requiring urgent surgeries with demand increasing rapidly.
Exposure (intervention)	Patients who have had either a total knee replacement or total hip replacement who have received early mobilization- mobilization on the same day of surgery.	Reviewing articles that use a comparative design where the subjects have received early mobilization to evaluate their length of stay in hospital.
Comparison / Control	Patients who have had either a total knee replacement or total hip replacement that have received mobilization post-operative day one.	To compare these patients who have not received early mobilization to evaluate their length of stay in hospital, with the exposure group.
Outcome	Decreased length of stay in hospital as a result of early mobilization.	Aiming to establish if early mobilization is a contributing factor in decreasing length of stay in hospital.
Time	N/A	Time is not applicable as it is the measured outcome.

(Jackson et al., 2006).

Jackson, R., Ameratunga, S., Broad, J., Connor, J., Lethaby, A., Robb, G., ... & Heneghan, C. (2006). The GATE frame: critical appraisal with pictures. *Evidence Based Nursing*, *9*(3), A8-A11. Retrieved from http://search.proquest.com.opezproxy.otago.ac.nz/docview/198639677?accountid=39660

A poster was chosen as the medium for distributing the evidenced based literature, as the message was aimed at readdressing the significance of early mobilization and how it has proven to contribute to shorter hospitalization in total knee and total hip patients, to an open audience (Juliano et al., 2010 & Tayrose et al., 2013). A submission would of been inappropriate, as previous research on the importance of early mobilization and recovery has already been submitted to the Ministry of Health. In response The Enhanced Recovery After Surgery (ERAS) programme was implemented into practice in the 18 out of 20 District Health Boards, with early mobilization being one of the core principles contributing to its success (Ministry of Health, 2015). My research goal was to then establish if early mobilization significantly affects length of stay, which proved to be true. My poster presents these findings and explains the clinical significance of early mobilization and how to safely achieve this to promote faster recovery. Using a visual medium of a poster I can illustrate these findings and make recommendations to my target audience, which specifically is the nursing profession, but not limited too. The poster can successfully illustrate my recommendations to implement into practice to safely achieve early mobilization in the aim of shorter hospitalization, reduced risks of post-operative complications, as well as maintaining patient satisfaction.

Juliano, K., Edwards, D., Spinello, D., Capizzano, Y., Epelman, E., Kalowitz, J., … Ghomrawi, H. (2010). Initiating Physical Therapy on the Day of Surgery Decreases Length of Stay Without Compromising Functional Outcomes Following Total Hip Arthroplasty. *Hospital for Special Surgery Journal,* 7: 16-20. Doi 10.1007/s11420-010-9167-y

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Tayrose, G., Newman, D., Slover, J., Jaffe, F., Hunter, T., & [illegible]13). Rapid Mobilization Decreases Length-of-Stay in Joint Replacement Patients. *Bulletin of the Hospital for Joint Diseas[illegible]*-6