
Standardising exercise management following cardiac surgery

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Summary

“Keep Your Move in the Tube” (KMIT®) is an evidence-based strategy, developed for patients following cardiac surgery via sternotomy. It imposes no load or time restrictions but instead prompts patients to perform everyday functional tasks by keeping the upper limbs close to the body. KMIT® has been reported to promote improved quality of life, function, and health cost

efficiencies without an increase in adverse events. A research translation framework was used to standardise practice across Queensland Health (QH) cardiac rehabilitation (CR) programs. A comprehensive education and training strategy was developed and implemented across QH facilities to update clinician familiarity, knowledge and understanding of the evidence. Office of the Chief Health Officer HP research grant funding supported the evaluation of the strategy. Participating clinicians supporting the local implementation were also introduced to and upskilled in research translation methodology.

Key dates

Dec 2021

Jun 2024

Implementation sites

QH median sternotomy surgical sites (TPCH, PAH, TUH, GCUH), 35 CR programs across all HHSs.

Partnerships

Queensland Health median sternotomy surgical sites, 35 CR programs.

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Aim

To review current cardiac rehabilitation (CR) practice, standardise the advice and exercise prescription in CR programs following cardiac surgery via sternotomy and evaluate the implementation strategy.

Benefits

- Patients are empowered to perform everyday functional tasks sooner following surgery, improving quality of life and function.
- Clinicians have access to a comprehensive education and training strategy embedded into ongoing professional development opportunities.
- Standardised education and exercise prescription across the four public surgical sites and 35 CR programs.

Background

Early upper limb exercise has been reported to be safe and improves cognitive, physical, and functional outcomes following cardiac surgery. However, patients are often advised to adhere to 'sternal precautions' in the form of upper limb movement, lifting and weight bearing restrictions, which have been shown to be overly restrictive. 2,500 patients undergo cardiac surgery via median sternotomy in QH facilities each year, with patients experiencing inconsistent and variable advice and exercise prescription following surgery and rehabilitation.

Solutions Implemented

Development of a complete suite of education and training tools that clinicians can access to embed into usual professional development strategies to support KMIT® implementation and sustainability.

Evaluation and Results

This prospective, longitudinal, observational study used a RE-AIM framework for evaluation. Education was attended by 390 clinicians, delivered by 12 local change champions. Familiarity with KMIT® improved from 11% to 76% following education and training. 88% reported integrating KMIT® principles into their clinical practice, an increase from 23% at baseline. Overall adoption, implementation and maintenance were met with very high, consistent agreement amongst clinicians.

Lessons Learnt

The early, multi-disciplinary engagement across all settings, and the time taken to on-board the right people, plan, and co-design, enabled the successful implementation of the strategy as everyone was invested. Using a research translation framework is a fantastic way to consider all aspects of research translation, however knowledge of project and change management principles is required to ensure successful implementation.

References

El-Ansary D, LaPier TK, Adams J, Gach R, Triano S, Katijjahbe MA, et al. An evidence-based perspective on movement and activity following median sternotomy. *Phys Ther.* 2019;99(12):1587-601. Parker R, Adams JL, Ogola G, McBrayer D, Hubbard JM, McCullough TL, et al. Current activity guidelines for CABG patients are too restrictive: comparison of the forces exerted on the median sternotomy during a cough vs. lifting activities combined with valsalva maneuver. *Thorac Cardiovasc Surg.* 2008;56(4):190-4. Adams J, Lotshaw A, Exum E, Campbell M, Spranger CB, Beveridge J, et al. An alternative approach to prescribing sternal precautions after median sternotomy, "Keep Your Move in the Tube". *Proc (Bayl Univ Med Cent).* 2016;29(1):97-100.