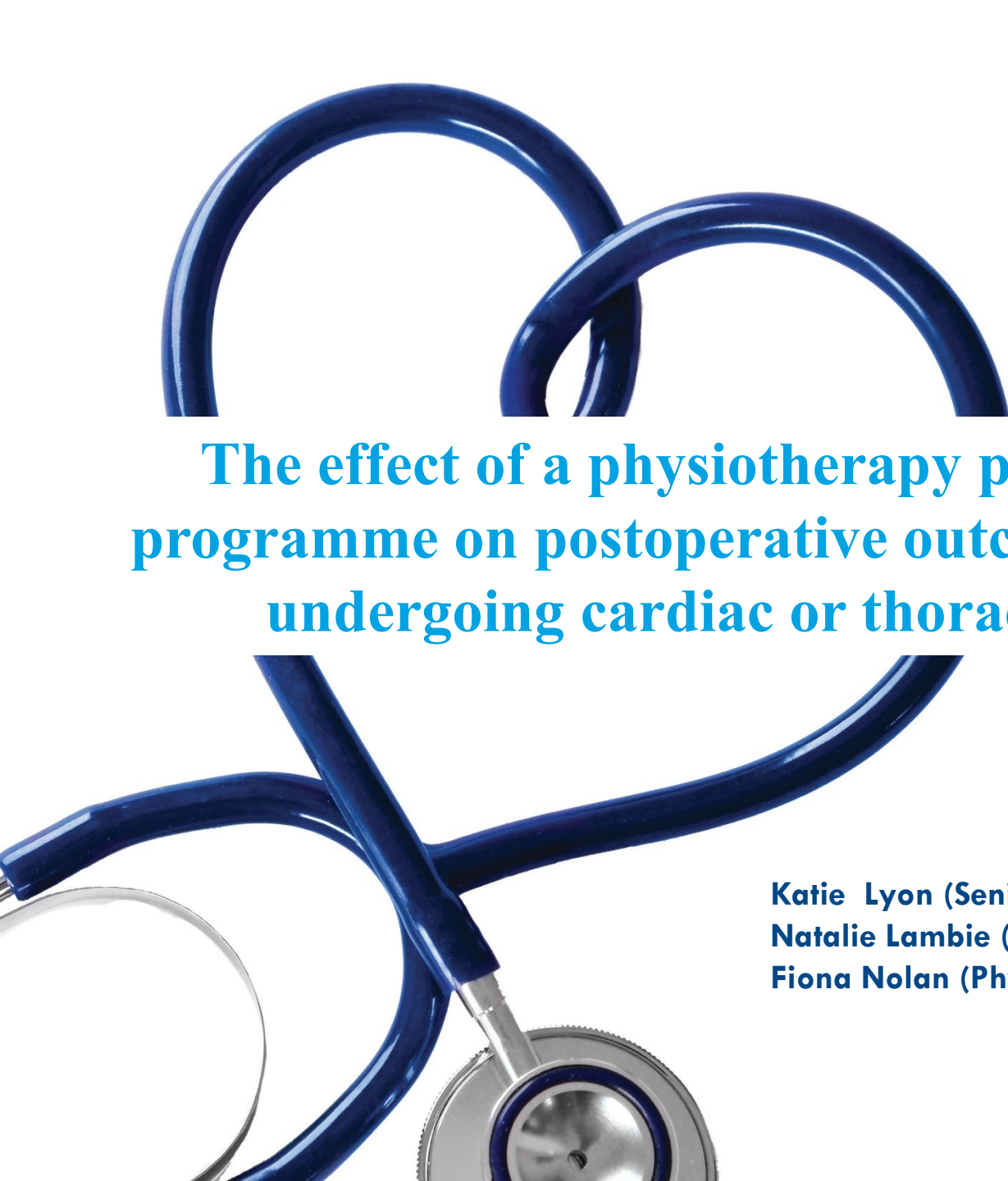




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The effect of a physiotherapy prehabilitation programme on postoperative outcomes in patients undergoing cardiac or thoracic surgery.

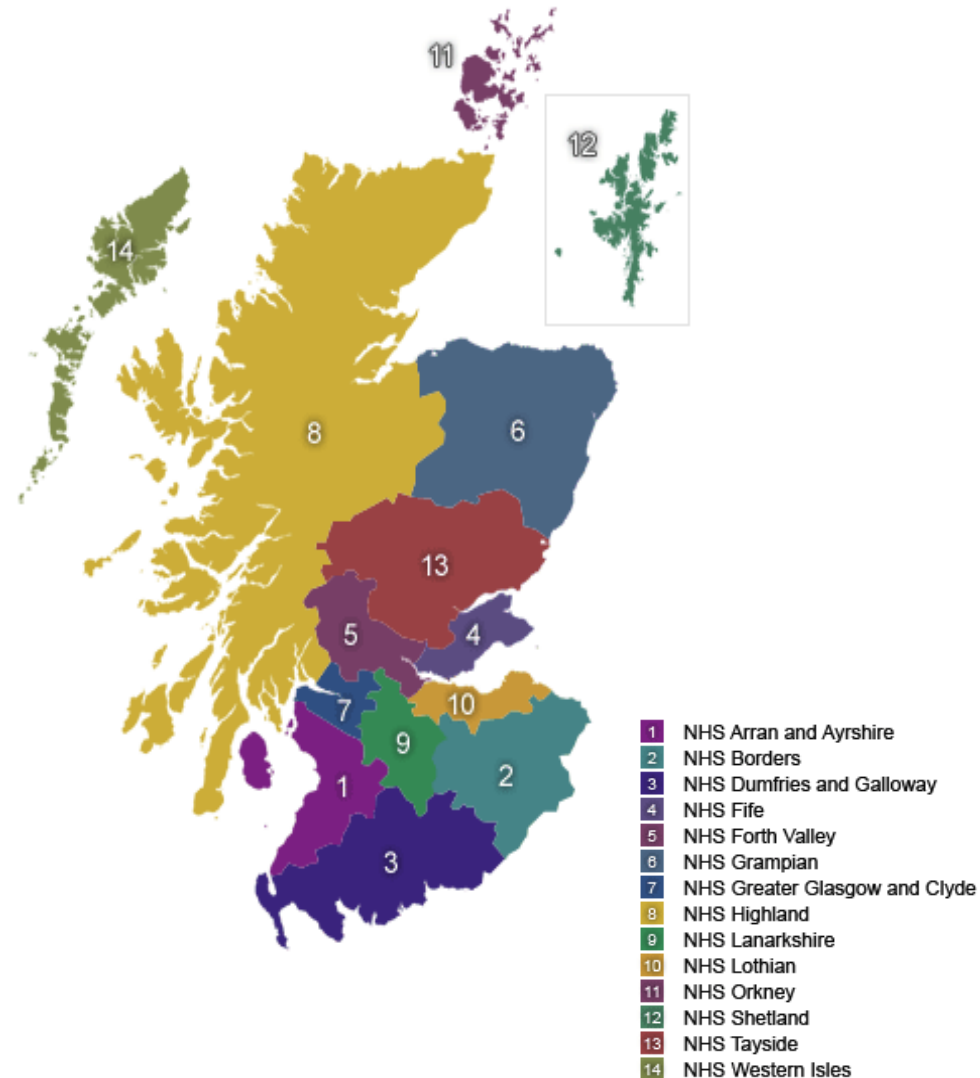
**Katie Lyon (Senior Physiotherapist)
Natalie Lambie (Senior Physiotherapist)
Fiona Nolan (Physiotherapy Team Lead)**

About Us



Golden Jubilee
National Hospital

- Golden Jubilee National Hospital (GJNH) is home to regional and national heart and lung services in Scotland
- National Waiting Times Centre
- Approximately 1 400 major heart surgery + 1 200 lung procedures every year





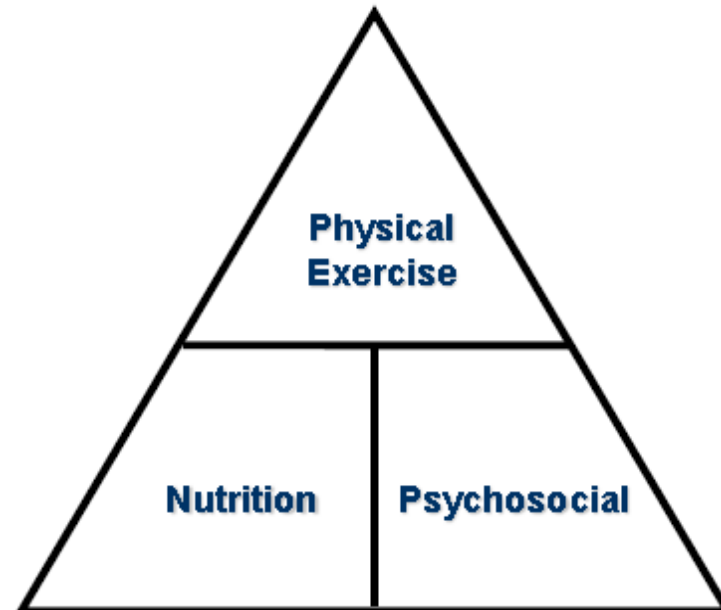
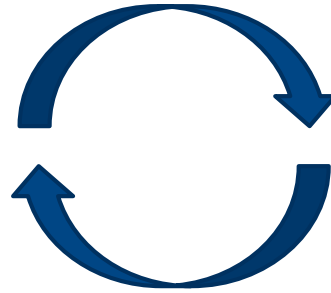
“the process of enhancing the functional capacity of the individual to enable him or her to withstand a stressful event”

(Ditmyer, Topp and Pifer 2002; Topp et al 2002)

Prehabilitation



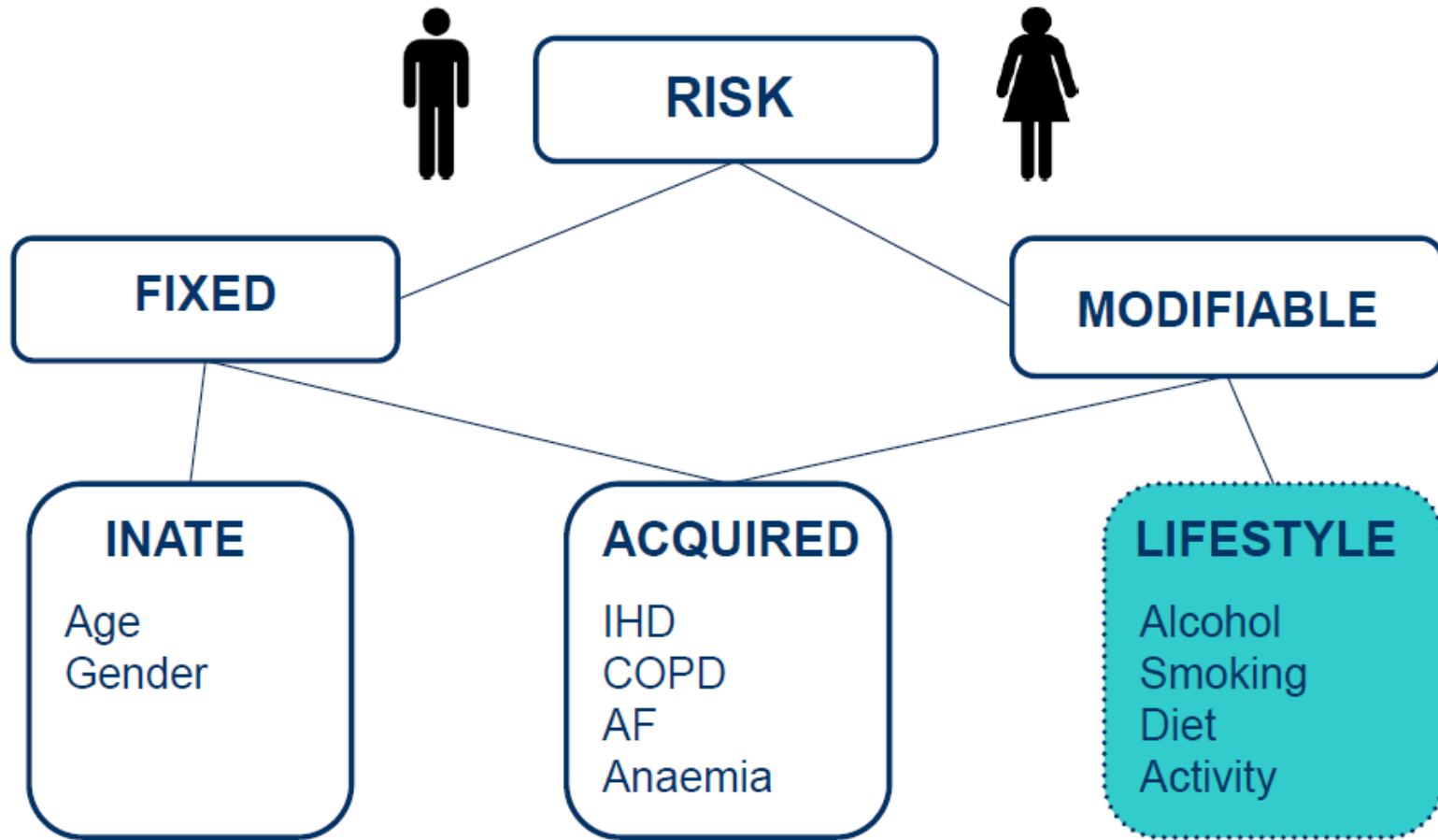
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Why Is Prehabilitation Important?



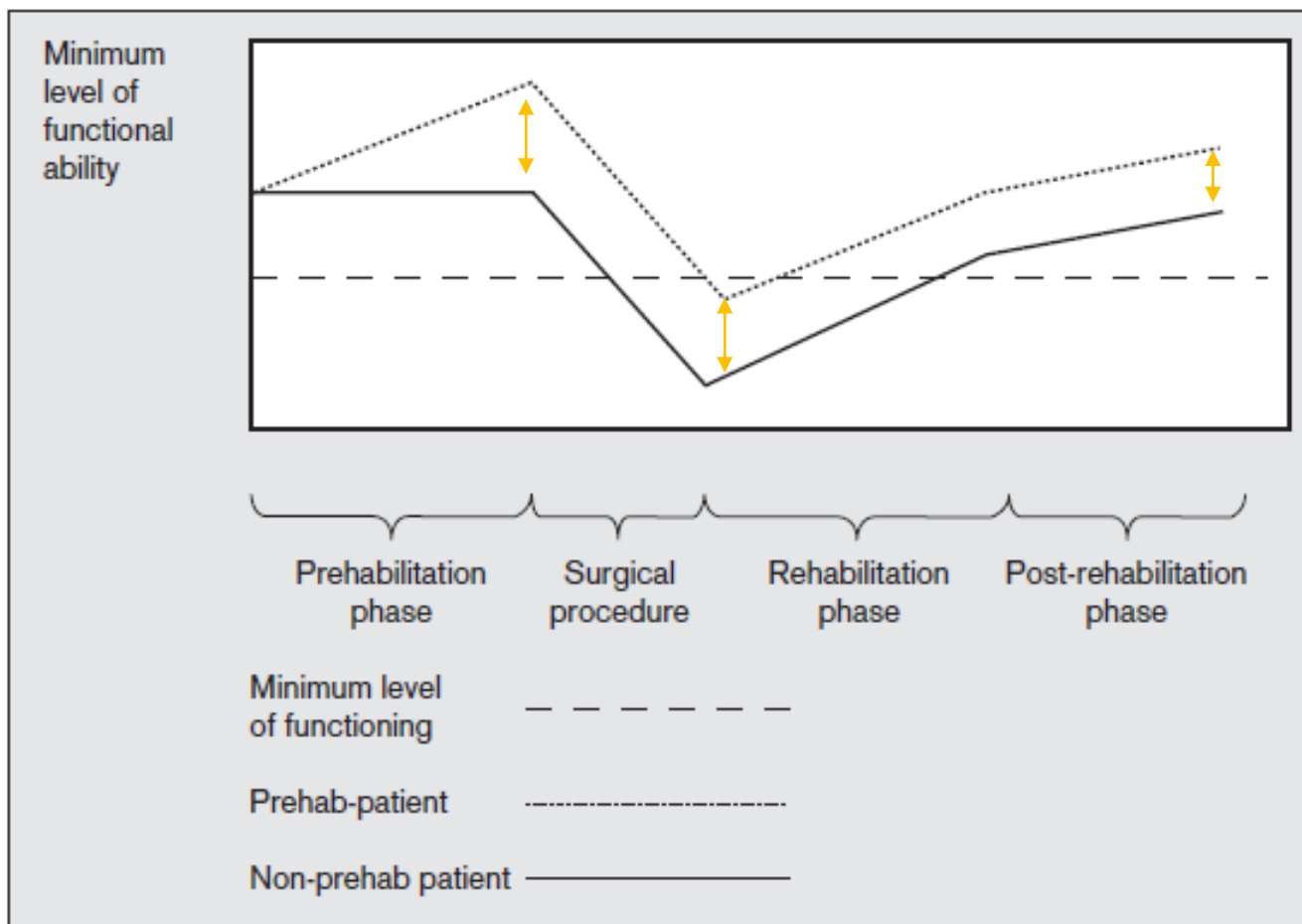
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Modified from Grocott (2015)



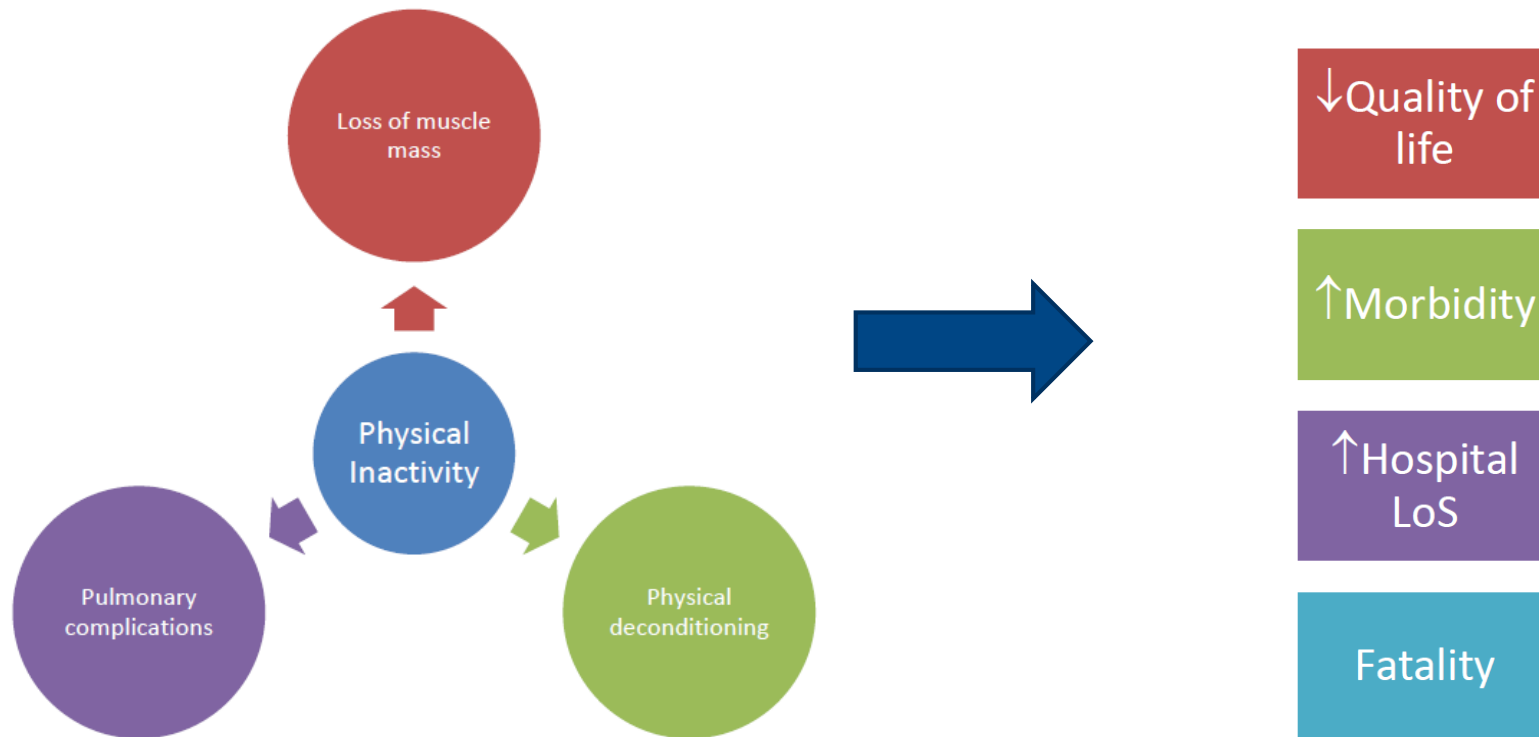
Theory of Prehabilitation





Fear Of Exercise

- Patients who are awaiting cardiothoracic surgery are often fearful of being physically active (Mooney, Fitzsimons and Richardson 2007)





Teachable Moment

Preoperative waiting period = an ideal opportunity to maintain & promote physical activity taking advantage of the “**teachable moment**” of recent diagnosis to promote changes in health related behaviour

(Mina et al 2014)

World Congress Of Enhanced Recovery & Perioperative Medicine 2015



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- Henrik Kehlet spoke about achievements in enhanced recovery AFTER surgery and the advances in enhanced recovery BEFORE surgery i.e.) prehabilitation
- He asked the direct question:

***“why are cardiothoracic and orthopaedics
so far behind?”***



Lack Of Evidence

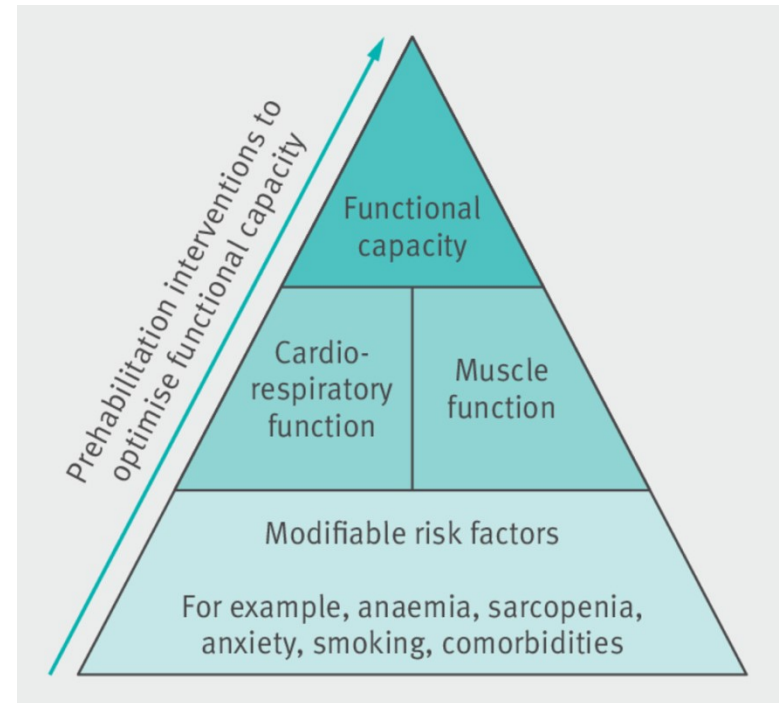
- Evidence for prehabilitation in cardiothoracic specialties are mainly within heart failure (McKelvie et al 2002)
- Studies are limited to small sample sizes & are mainly class based reliant on physiotherapy led or 1:1 interaction → extra commitment from patients to attend classes (Furze et al 2008, Sawatzky et al 2014)
- Research suggests that home based exercise is feasible and safe, with comparable outcomes to supervised programmes (Brocki et al 2014)

GJNH Physio Prehabilitation



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- Ethical approval has been granted for this pilot study to determine the feasibility for a full RCT
- Concentrating on the physical element of prehabilitation



Wynter-Blyth and Moorthy (2017)

Aims



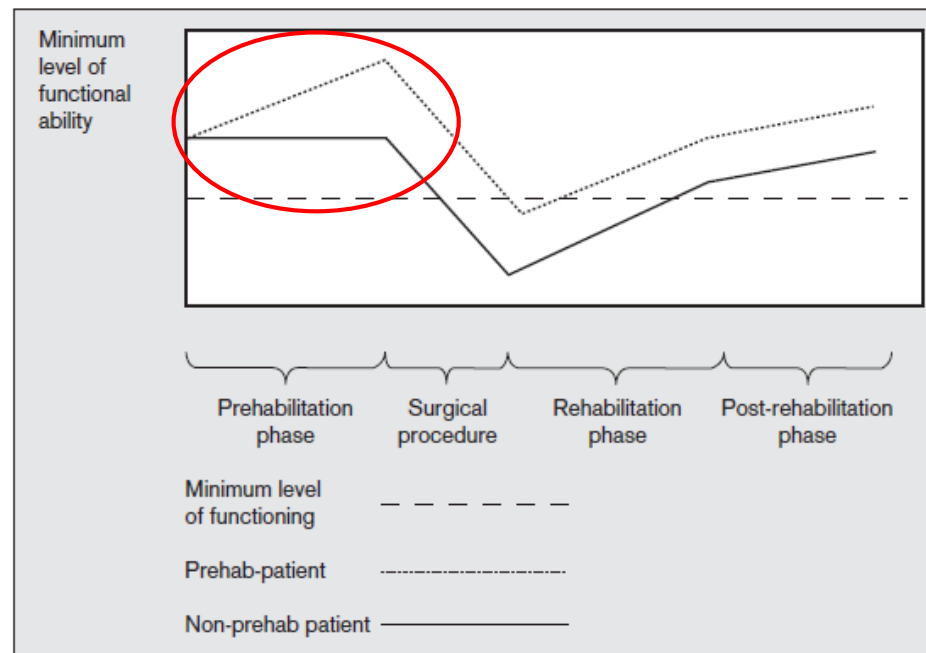
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- To determine whether a **home based** physiotherapy prehabilitation programme improves patients' **functional capacity**.
- Measured by a 6 minute walk test (6MWT) prior to surgery and improve post surgical recovery and recovery of functional capacity earlier.



Outcome Measures

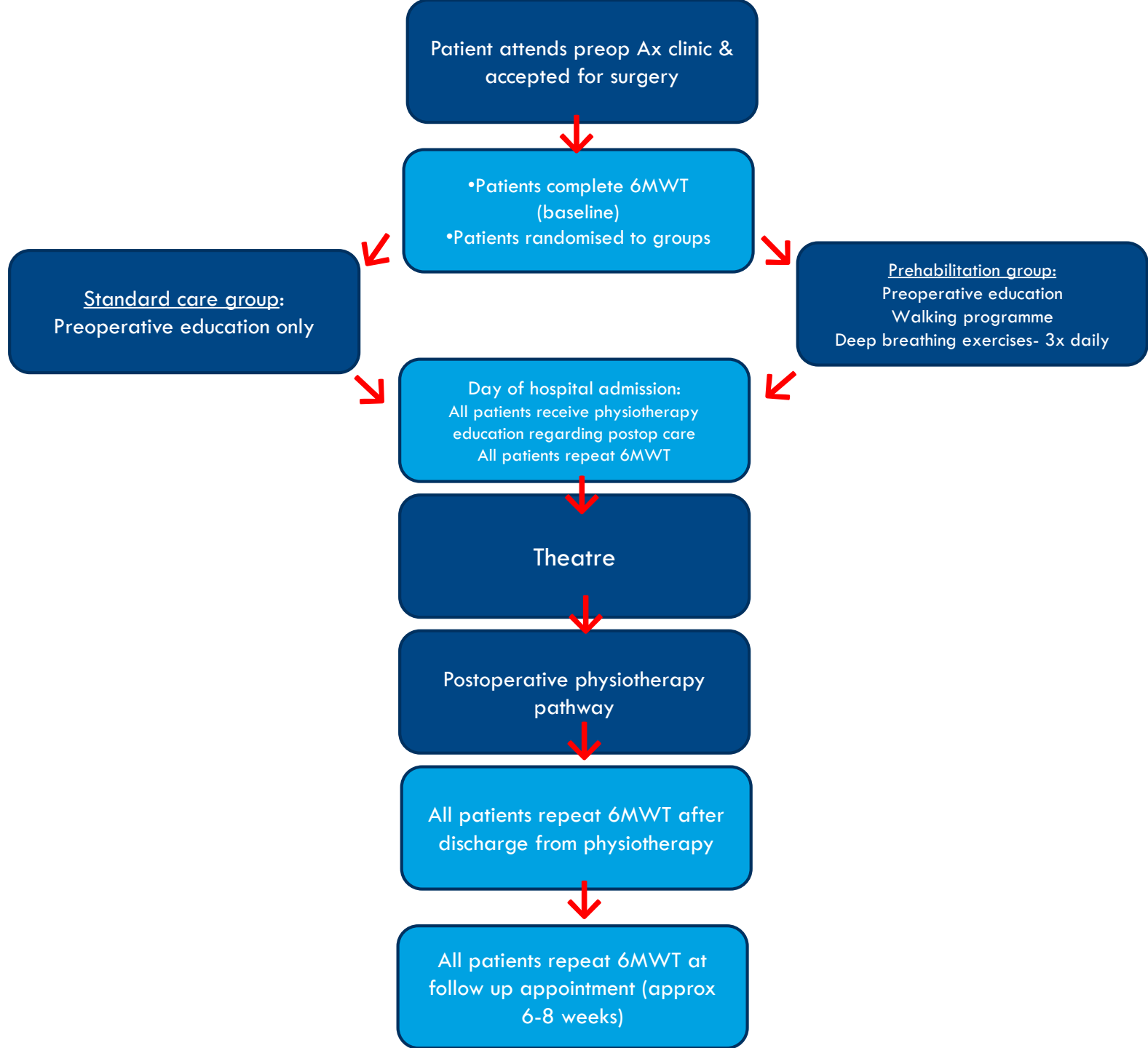
- Primary:
 - ▣ Difference between groups functional activity from **baseline** to point of **admission for surgery** as measured by the 6MWT





Outcome Measures

- Secondary:
 - ▣ Functional capacity on discharge and follow-up
 - ▣ Physiotherapy length of stay
 - ▣ Total post-operative hospital length of stay
 - ▣ EQ-5D questionnaire



Patient attends preop Ax clinic & accepted for surgery

•Patients complete 6MWT (baseline)
•Patients randomised to groups

Standard care group:
Preoperative education only

Prehabilitation group:
Preoperative education
Walking programme
Deep breathing exercises- 3x daily

Day of hospital admission:
All patients receive physiotherapy education regarding postop care
All patients repeat 6MWT

Theatre

Postoperative physiotherapy pathway

All patients repeat 6MWT after discharge from physiotherapy

All patients repeat 6MWT at follow up appointment (approx 6-8 weeks)

Results



- Recruitment ongoing
- Preliminary results for cardiac surgery (n=4) for primary outcome
- Aim for (n=20) in both cardiac and thoracic to allow power calculation

6MWT Measure	Standard Care Group (Mean distance (m))	Prehabilitation Group (Mean distance (m))
Baseline	407.90	420.16
Preoperative	424.30	482.59
Change baseline to preoperative	+32.59	+40.59



Final Thoughts...

- Prehabilitation could allow a move away from the “impairment driven, reactive model of care” towards a proactive approach that motivates patients to become active participants in their recovery
- Statistically we will all undergo surgery at some point in our lives
- Therefore...

WE ARE ALL PREOPERATIVE



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