

The effect of prehabilitation programmes in major abdominal surgery: A systematic review

**Alison Luther, Joseph Gabriel,
Richard Watson & Nader Francis**

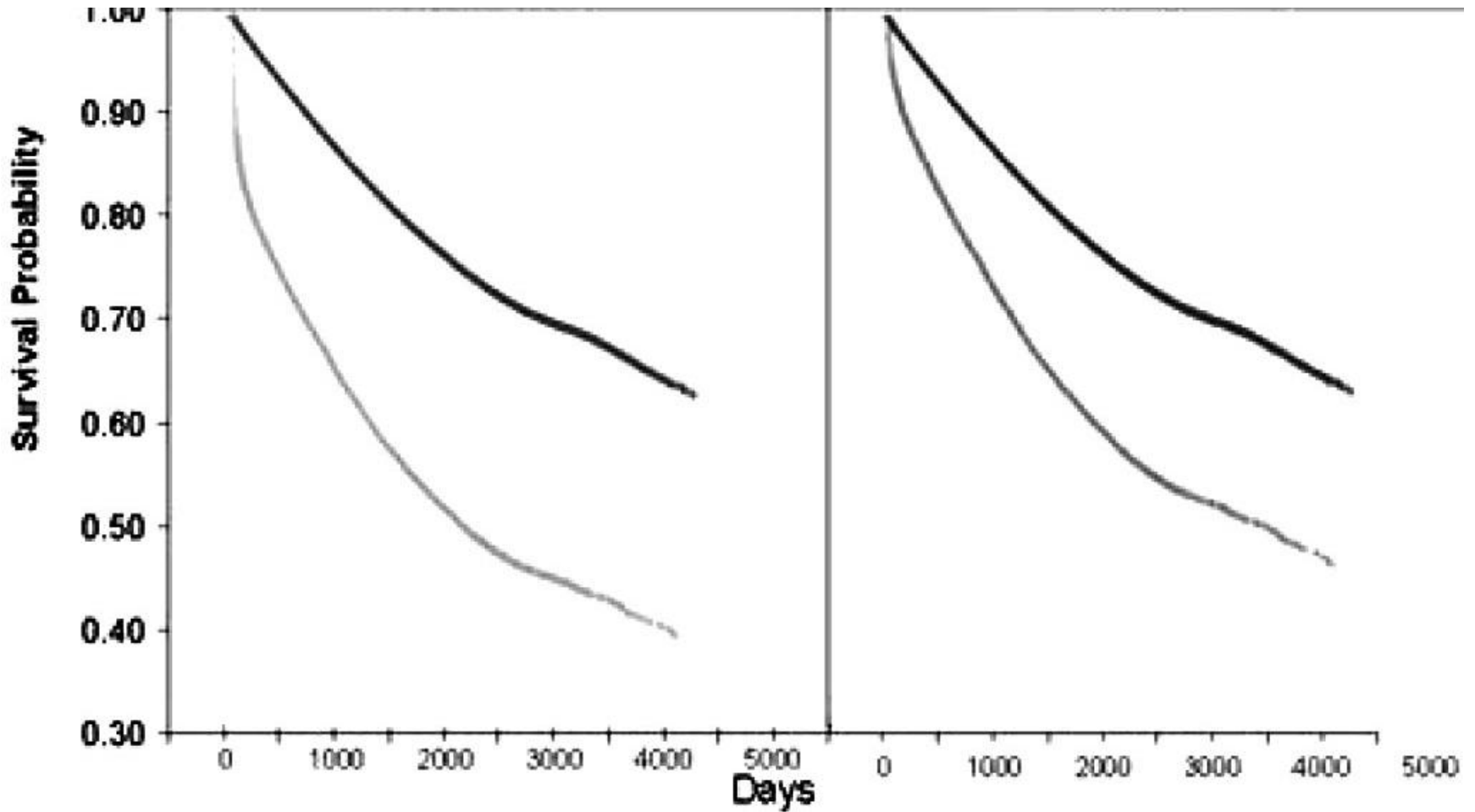
**ERAS-UK conference
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Major abdominal surgery

- High risk
 - 35% patients have complications
 - Affect on functionality
- Complications and reduced functionality have long term effect on survival

Determinants of Long-Term Survival After Major Surgery and the Adverse Effect of Postoperative Complications

Shukri FK et al, Ann Surg 2005;242: 326–343



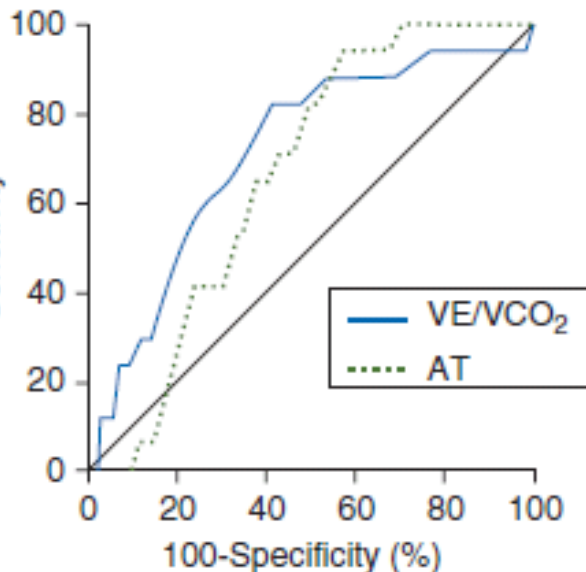


Impaired functional capacity is associated with all-cause mortality after major elective intra-abdominal surgery

R. J. T. Wilson*, S. Davies, D. Yates, J. Redman and M. Stone

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ROC: AT and VE/VCO₂ at AT



1 and $VE/VCO_2 > 34$ as predictors of hospital mortality. The area under the curve (AUC) was 0.68 [95% CI (0.59–0.76)] for AT, 0.69 (0.55–0.82) for

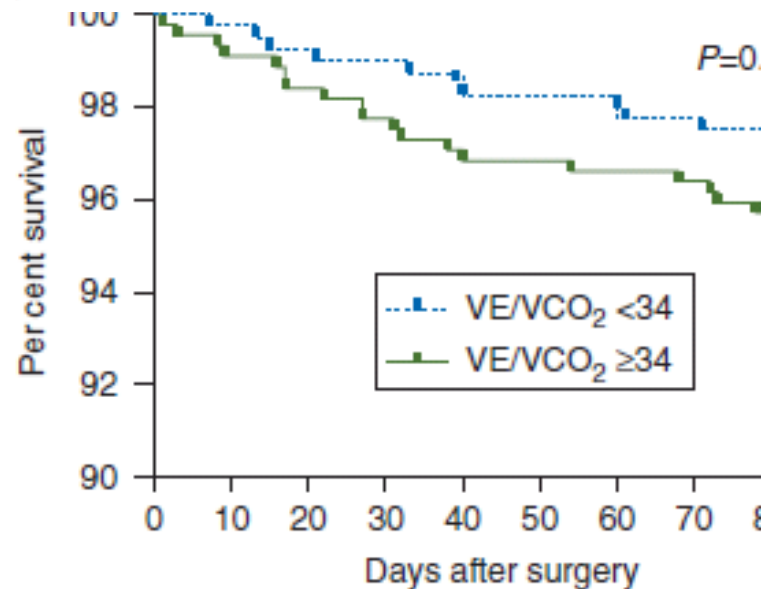
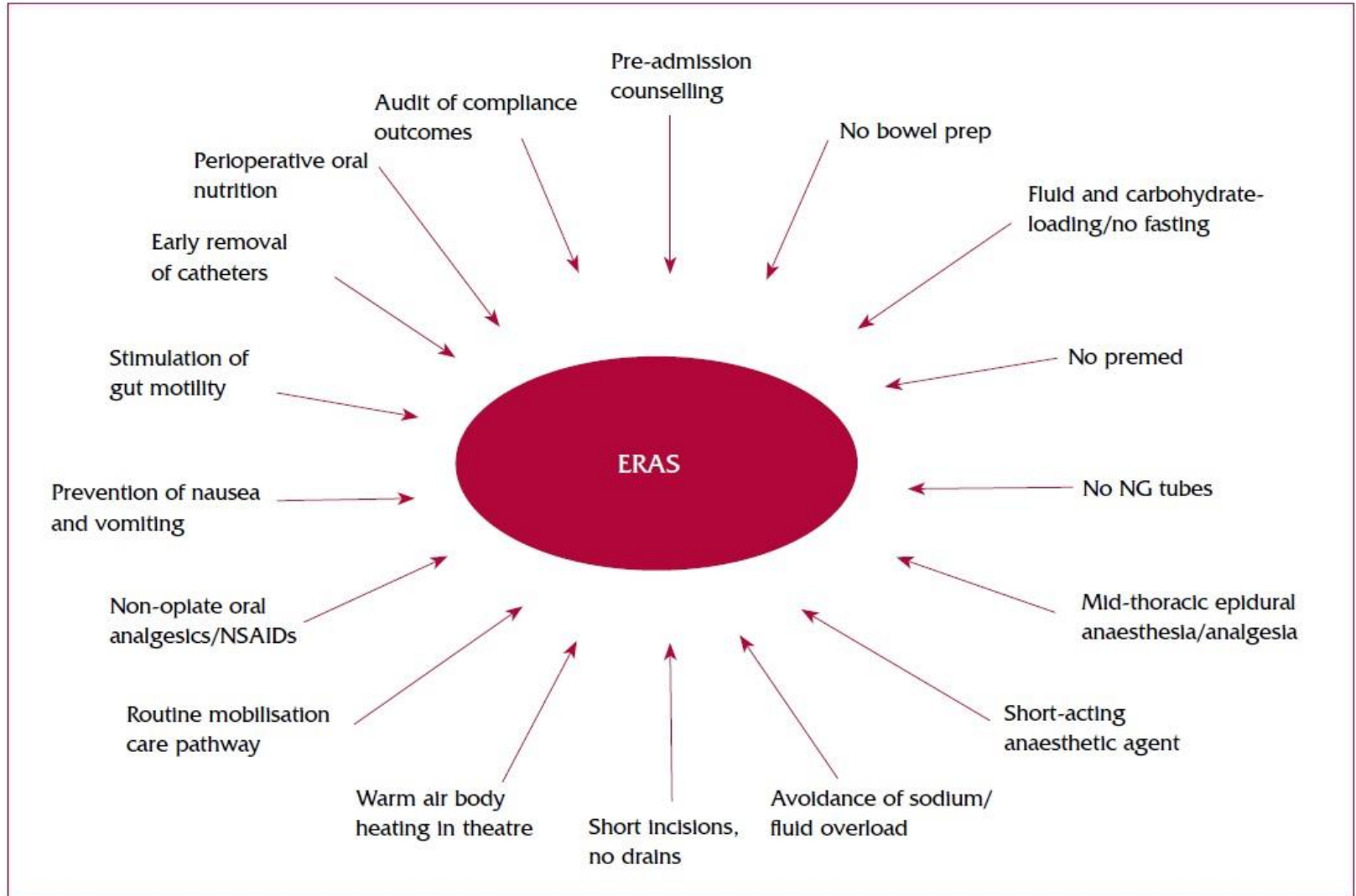
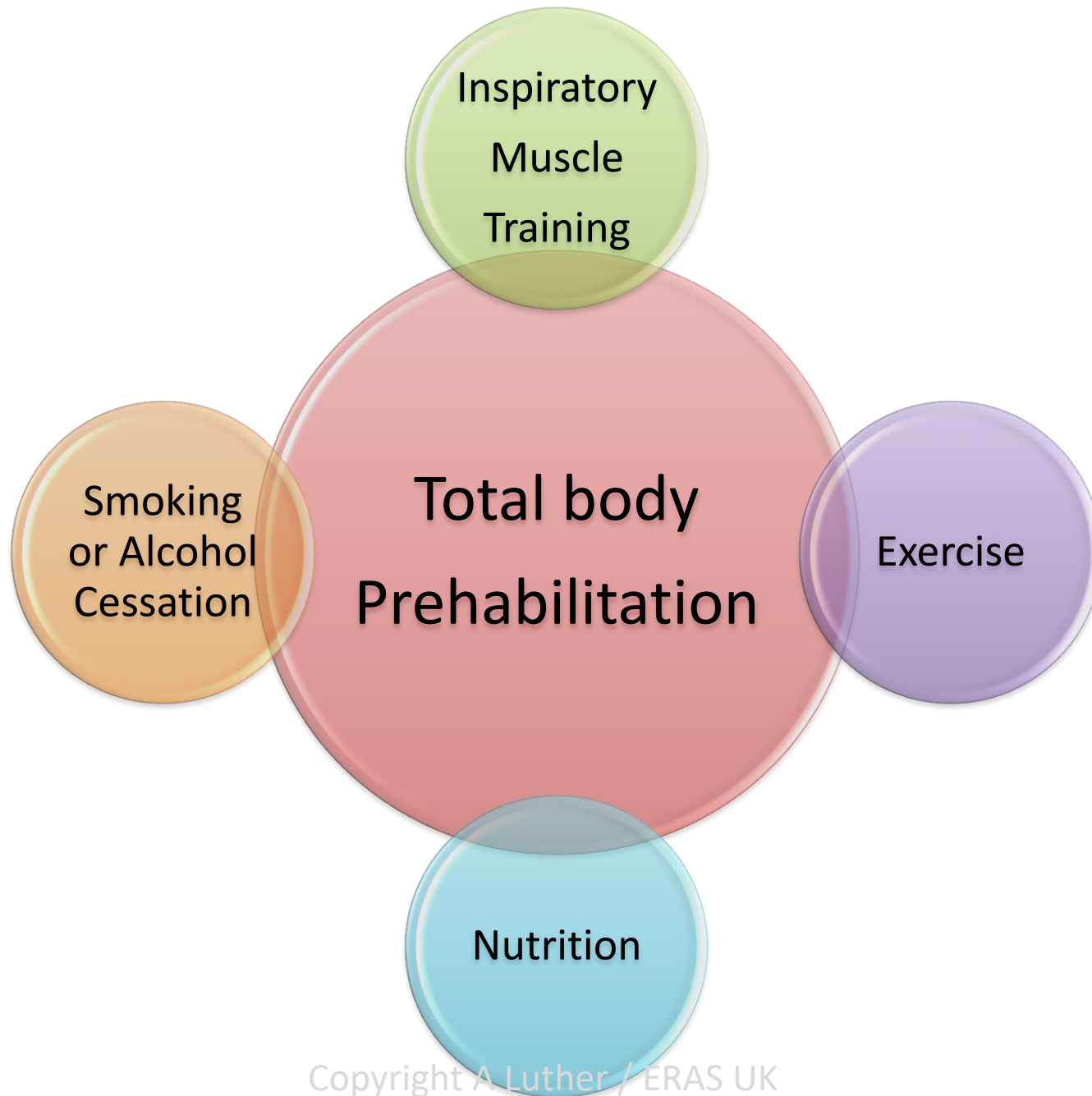


Fig 3 Kaplan–Meier curve for 90 day survival for $VE/VCO_2 < 34$ compared with $VE/VCO_2 \geq 34$. Survival at 90 days was significantly greater in patients with $VE/VCO_2 < 34$ ($P=0.02$).

Minimal pre-operative input





Study aim

To perform systematic review to assess the effect of total body prehabilitation on clinical and functional outcomes in patients undergoing major abdominal surgery

Methods

Defined search terms

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graph TD; A[Defined search terms] --> B[AMED, CINHAL, Cochrane database, EMBASE, MEDLINE, PubMed, PsychINFO]; B --> C[3281 citations with 1340 duplications]; C --> D[Applied inclusion/exclusion criteria];
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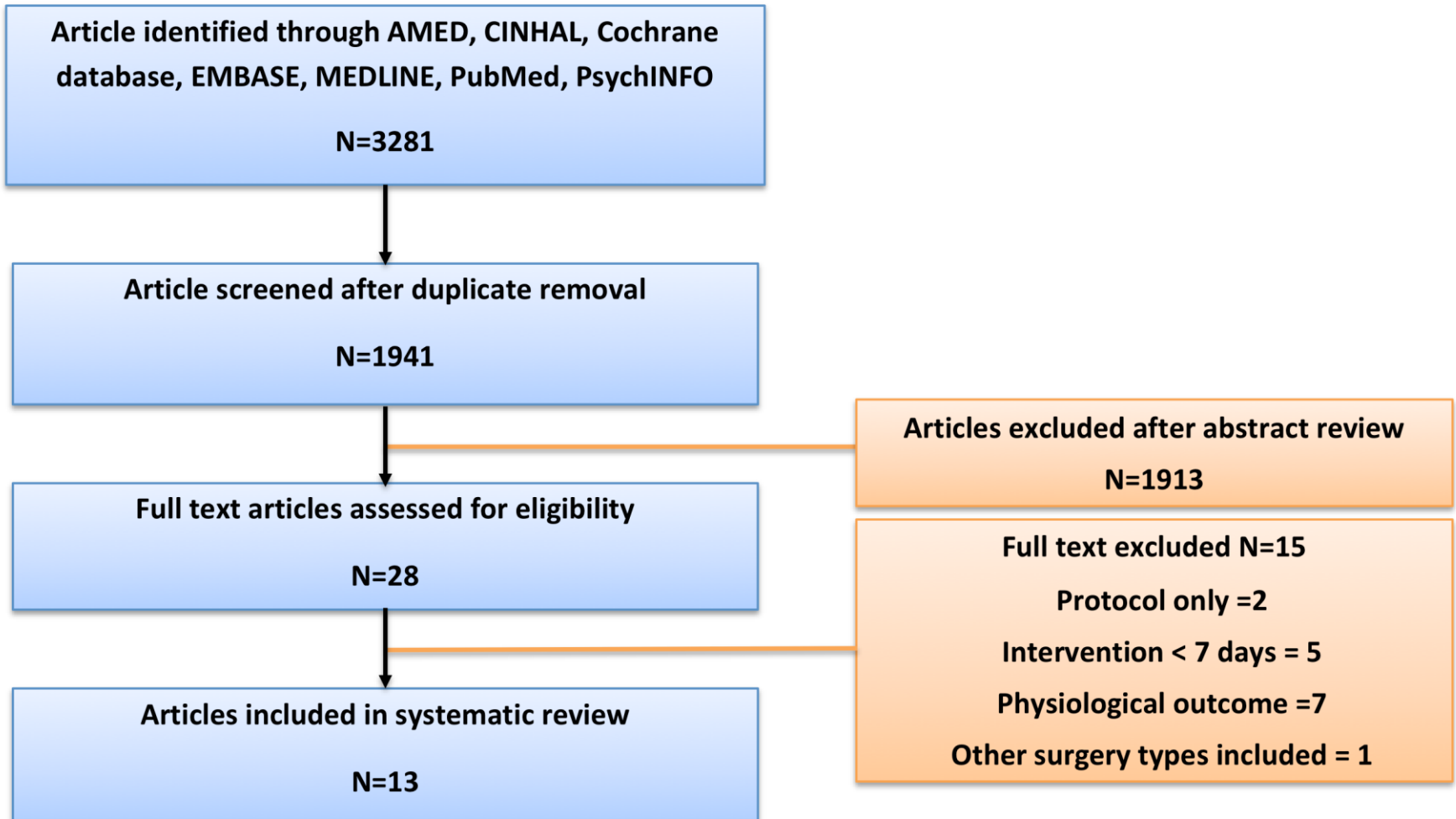
AMED, CINHAL, Cochrane database,
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3281 citations with 1340 duplications

Applied inclusion/exclusion criteria

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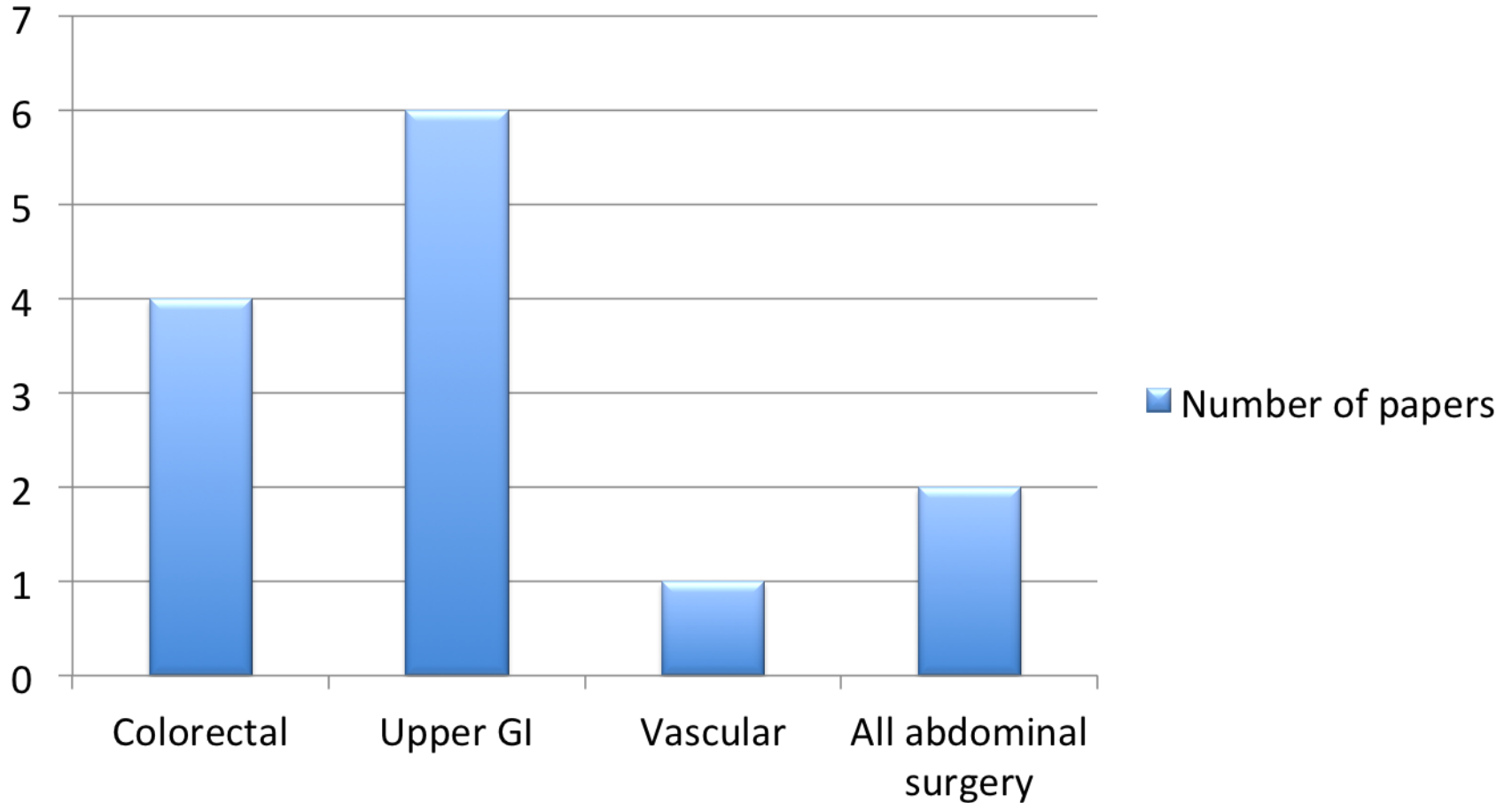
PRISMA Diagram



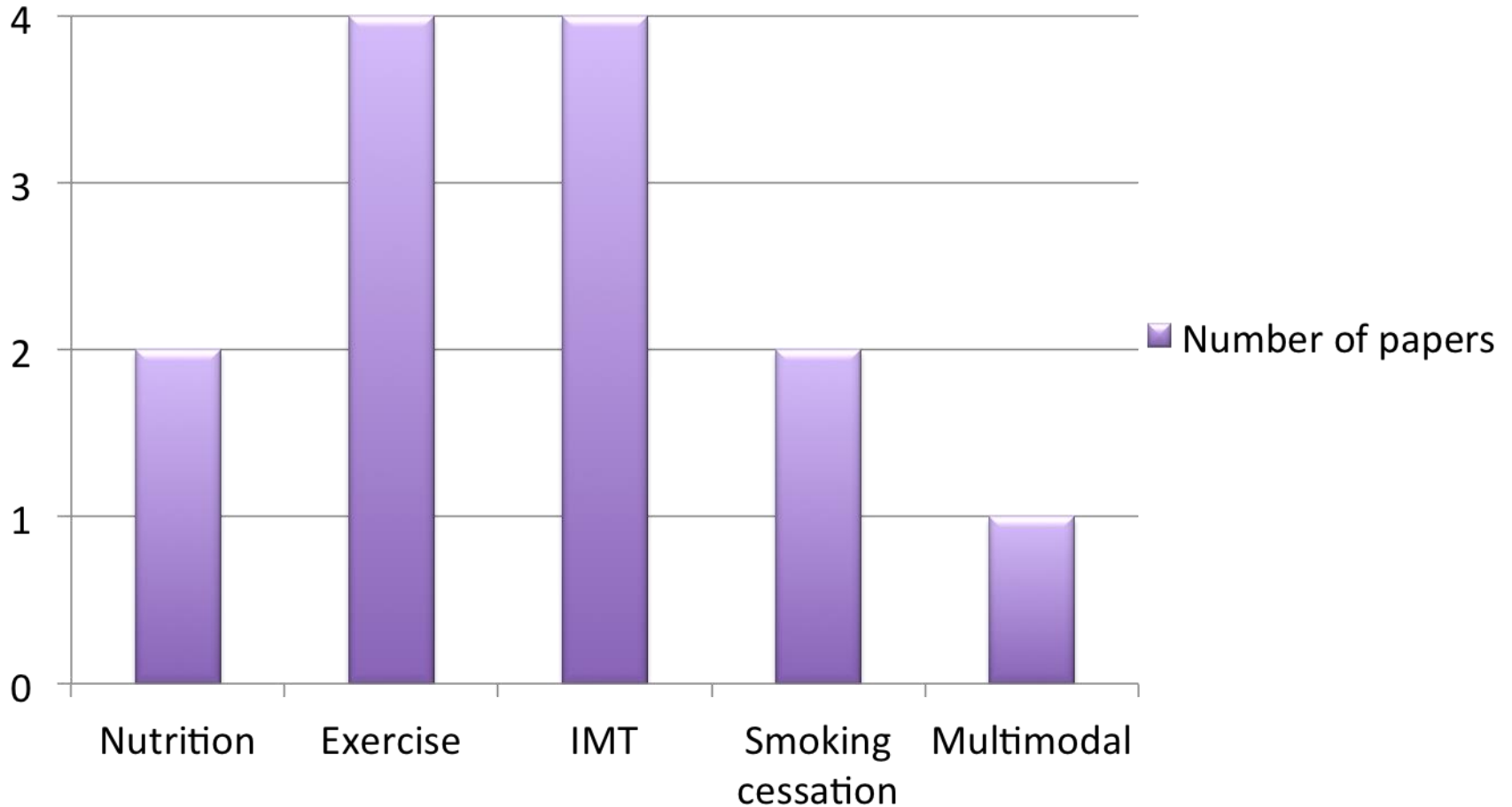
Results

- 13 papers identified
 - 7 RCT, 1 nR CT, 5 cohort studies
- Duration of intervention ranged from 7 days to 37.6 days (median) pre operatively
- Follow up ranged from 8 days to 3 years post operatively

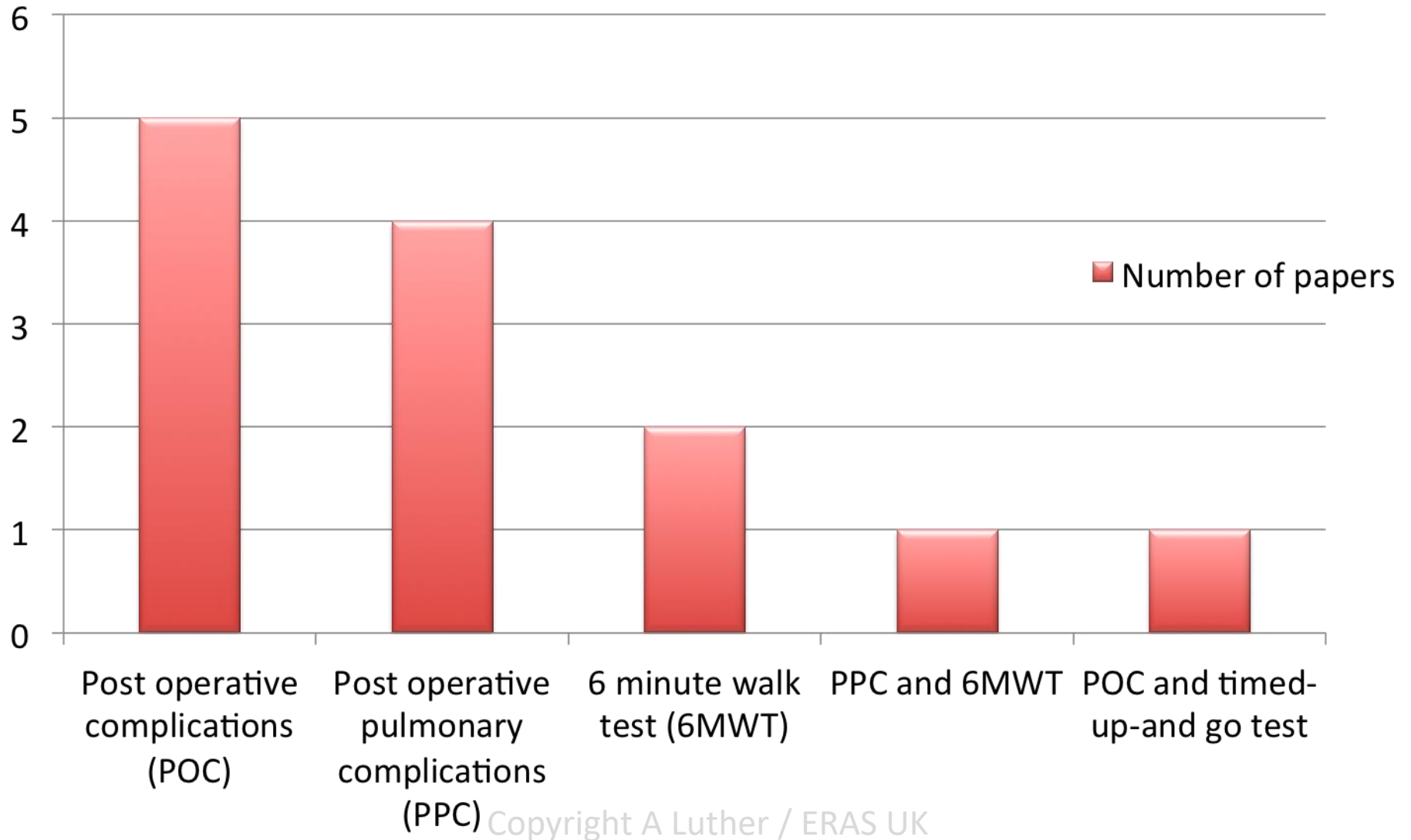
Types of surgery assessed



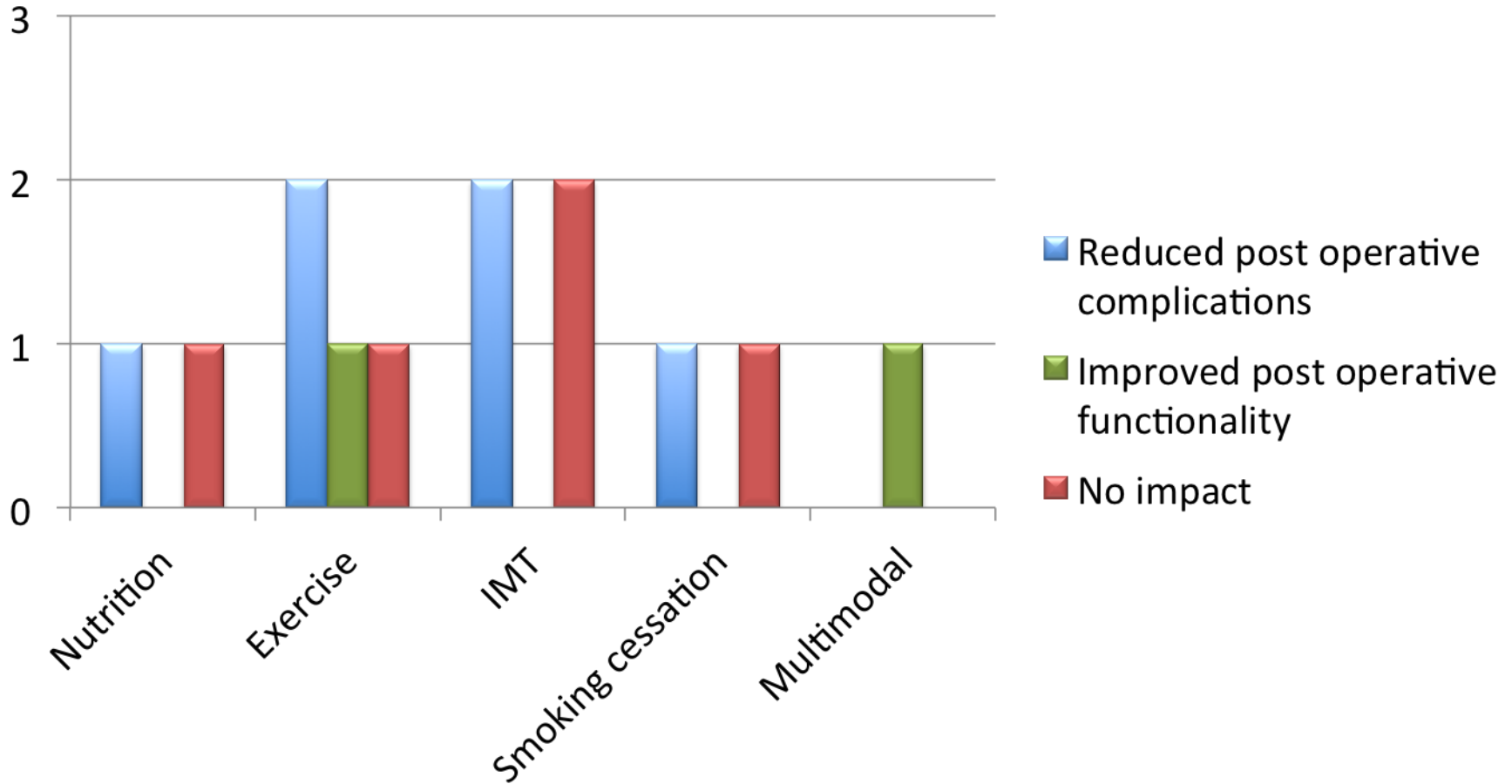
Types of prehabilitation assessed



Outcome measures used



Significant outcomes compared to intervention



Interesting papers

- Li et al – multimodal intervention
- 6MWT at 8 weeks:
 - Intervention group better than original baseline
 - Control still not reached original baseline
- Larger studies (e.g PREPARE ABC) being planned

Compliance

- Poorly reported
- Mainly reliant on patient self reporting
- Nutrition
 - Burden et al: 72% took 100% nutritional supplementation
- Exercise
 - Carli et al: 16% did prescribed amount of exercise
- Smoking
 - Sorenson et al: 33% stopped smoking completely

Conclusions

- Heterogeneous results
- Is a multimodal intervention best?
 - Like ERAS
 - Could be complementary to ERAS

But....

Conclusions

- Current climate
 - Financial and time demands
- Need pragmatic appropriate intervention
 - Use of wearable technology?
- Best outcome measures?
- Is a feasibility study the next step before committing to large RCT?

Any questions??