

The risk of operating: Do surgeons and anaesthetists appreciate the role of frailty in general surgery?



RESEARCH WEEK
5-9 OCTOBER 2020
INSPIRED RESEARCHERS
Northern Health

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BACKGROUND

- Frailty is defined as an age-related, multidimensional decrease in physiological reserve with diminished resilience to physiological stressors.
- Frail patients tend to have higher rates of postoperative complications and take longer to recover from surgery.
- The use of frailty scales has proved effective in predicting postoperative morbidity, mortality, and increased rates of readmission.
- Despite their effectiveness, multiple barriers to frailty assessment exist, and the knowledge and usage of frailty scales in preoperative assessment remains low.



AIMS

- To assess surgeons' and anaesthetists' knowledge of frailty scores, their perceptions of frailty, their usage of such scores in preoperative assessment and other steps taken to investigate frailty preoperatively.
- To assess the difference in postoperative outcomes between frail and non-frail patients.

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RESULTS

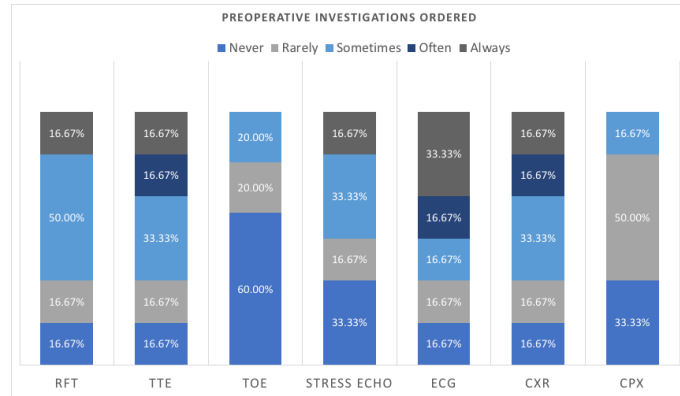


Figure 1. The frequency of preoperative investigations ordered for patients deemed frail.

Frailty Scale	Surgeons			Anaesthetists		
	Familiar	Unfamiliar	Percentage Familiar	Familiar	Unfamiliar	Percentage Familiar
Fried Phenotype	0	6	0%	1	5	17%
Comprehensive Geriatric Assessment	2	4	33%	1	5	17%
Rockwood Frailty Index	1	5	17%	3	4	43%
Modified Frailty Index (11-point)	2	4	33%	0	6	0%
Modified Frailty Index (5-point)	2	4	33%	0	6	0%
Clinical Frailty Scale	2	4	33%	4	3	57%
Edmonton Frailty Scale	0	6	0%	3	4	43%
Comprehensive Assessment of Frailty	0	6	0%	0	6	0%

Table 1. Familiarity of frailty scales between surgeons and anaesthetists.

	Frail	Non-Frail	Significance
Mean LOS (days)	9.67	7.42	0.317
Mean age (years)	74.67	61.7	0.023*
Mean SORT mortality risk	7.75%	1.91%	0.010*
Mean NSQIP mortality risk	10.27%	1.13%	0.003*
Mean surgeon mortality risk estimate	3.17%	1.50%	0.354
Mean anaesthetist mortality risk estimate	8.33%	4.88%	0.476
Major complications %	20%	9.09%	0.574
HDU/ICU admission	50%	55%	0.837

Table 3. Postoperative outcomes compared between frail and non-frail patients

	% of frail patients	% of non-frail patients	Significance
ERAS	0%	38%	0.145
PAC	100%	97%	0.666
ANAPAC	50%	67%	0.434
RFT	0%	12%	0.368
Echo	67%	9%	0.001*
Stress Echo	0%	0%	-
PRIME Clinic	0%	0%	-
ECG	100%	97%	0.666
CXR	83%	27%	0.008*
CPX	0%	0%	-
HDU/ICU Planned	33%	42%	0.677

Table 2. Preoperative investigations and clinic presentation rates compared between frail and non-frail patients.

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DISCUSSION

- Surgeons' and anaesthetists' familiarity with frailty scales is variable, with no clear leading scale currently in use.
- Preoperative investigations appear to be ordered based on factors other than frailty. Echocardiograms and chest x-rays were the only investigations ordered at a significantly higher rate for frail patients.
- Frail patients at The Northern Hospital were significantly older, and had significantly higher mortality risk estimates based on online calculators. The risk calculators utilise similar inputs to frailty indices.
- Frail patients appear to trend towards longer length of stays, and had higher preoperative mortality risk estimates from both surgeons and anaesthetists, although these results were not statistically significant.



CONCLUSION

- Further research is needed across a higher sample size in order to fully appreciate the effects of frailty on the surgical management of patients at The Northern Hospital. It appears that frail patients and non-frail patients are currently managed in a similar manner, despite evidence of the benefit of managing patients based on their frailty.