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## How do anaesthetist and geriatrician perioperative frailty assessments compare?

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Editor—Frailty is a syndrome characterised by loss of physiological reserve across multiple organ systems leading to vulnerability to homeostatic failure and organ dysfunction in the aftermath of a stressor event.<sup>1</sup> Frailty is associated with adverse perioperative outcomes in emergency general surgery.<sup>2</sup> National reports such as the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report, 'An Age Old Problem', have highlighted deficiencies in surgical pathways for this high-risk group and emphasise the need for frailty recognition as an independent marker of perioperative risk.<sup>3</sup>

The National Emergency Laparotomy Audit (NELA) is an initiative in England and Wales aiming to improve the care of patients undergoing emergency laparotomy through collection and publication of comparative data. In December 2018, NELA introduced a pre-admission Clinical Frailty Scale (CFS)<sup>4</sup> score into the dataset. In the emergency laparotomy setting, anaesthetists and surgeons are usually responsible for completing frailty assessments. It has been hypothesised that anaesthetists may be less familiar with frailty assessment than geriatricians, for whom frailty is at the core of their daily practice. In a recent survey of anaesthetist-delivered perioperative medicine services, only a fifth of respondents utilised frailty assessment tools in their clinical practice.<sup>5</sup>

Frailty assessment is increasingly used to guide clinical decision-making.<sup>6</sup> In the perioperative setting it can be used to inform decisions about appropriate levels of care, such as the need for postoperative intensive care admission. It is therefore imperative that clinicians undertaking frailty assessments are competent in the use of frailty assessment tools and understand their limitations. This study aimed to compare CFS scores assigned by anaesthetists and geriatricians and to evaluate anaesthetists' confidence in frailty assessment.

Patients presenting for emergency laparotomy between December 2018 and May 2019 at a large tertiary centre (Southmead Hospital, Bristol, UK) were assigned CFS scores preoperatively by an anaesthetist and postoperatively by a

geriatrician. The geriatrician was blinded to the anaesthetist-assigned frailty score. CFS scores were assigned based on information relating to the patient's physical performance in the 2 weeks preceding admission to hospital. This information was gathered during face-to-face consultations with the patient, carer, or both by both the anaesthetist (preoperatively) and geriatrician (postoperatively).

An anonymous online survey was sent via email to all anaesthetic trainees (ST1–ST7), associate specialists, and consultants at our institution. Respondents were asked to score their confidence in assessing frailty; whether they have received formal teaching on frailty; their familiarity with frailty scoring systems, and how they thought their frailty assessment would compare with a geriatrician. The survey was designed through a team of anaesthetists and geriatricians and tested before use with colleagues not involved in its design. The frailty tools were suggested by the members of the team before the survey being sent.

Thirty-three patients were incorporated on the NELA database in the period analysed; nine were excluded, resulting in 24 patients included in the analysis. Reasons for exclusion included: no preoperative CFS score (8 patients), and one patient died after surgery before postoperative CFS.

CFS was the same in 58% of cases ( $n=14$ ). The highest level of agreement between anaesthetist and geriatrician assigned CFS were in the non-frail cohorts (CFS 1–3). Anaesthetist and geriatrician assigned CFS differed in 42% ( $n=10$ ); these results are displayed in Table 1. Where scores differed, anaesthetists were more likely to assign a higher frailty score than the geriatricians.

Of the 120 anaesthetists contacted, 35 responded to the survey (response rate, 25.7%), of which 70% were consultants. The mean score for confidence in assessing frailty was 4.7 out of 10 (1=not at all confident; 10=very confident); range 2–9. The 'timed up and go' test was the most recognised assessment of frailty, with 23 (65%) respondents reporting awareness of the test, and 51% ( $n=18$ ) of respondents were aware of the

**Table 1** Anaesthetist and geriatrician assigned Clinical Frailty Scale (CFS) scores where scores differed. \*CFS scores 1–3 were entered into the National Emergency Laparotomy Audit database as a single datapoint.

Patient	Anaesthetist CFS	Geriatrician CFS
Patient a	5	6
Patient b	5	6
Patient c	1–3*	4
Patient d	8	4
Patient e	6	4
Patient f	6	5
Patient g	5	4
Patient h	6	4
Patient i	6	5
Patient j	6	5

CFS. Other recognised frailty assessment tools included the 6 min walk test ( $n=22$ ); Edmonton frail scale ( $n=20$ ); Frailty Index ( $n=9$ ); Fried Frailty phenotype ( $n=3$ ). Ninety-one percent ( $n=30$ ) of respondents received no formal training in frailty assessment; 51% ( $n=18$ ) felt that they would underestimate frailty in comparison with a geriatrician; 29% ( $n=10$ ) felt they would overestimate frailty; and 20% ( $n=7$ ) felt their assessment would be the same as that of a geriatrician.

These results demonstrate a high level of agreement in frailty assessment between anaesthetists and geriatricians, particularly in non-frail and severely frail patients. However, in patients with a mild-to-moderate degree of frailty (CFS score, 5 or 6), anaesthetists were more likely than geriatricians to assign a higher degree of frailty.

The survey results demonstrate a low level of anaesthetist confidence in frailty assessment. The majority of anaesthetists had received no formal training in frailty assessment, and 49% were not familiar with the CFS. Despite this, there was a high level of concordance between anaesthetist and geriatrician CFS, indicating the ease of use of this frailty score even in the absence of specific training. Interestingly, more than half of anaesthetists thought they would underestimate frailty when compared with geriatrician assessment, in contrast with the results of our comparative data of CFS scores.

Frailty is a dynamic process, and one of the limitations of this study is the temporal difference in frailty assessment (preoperative anaesthetist assessment compared with postoperative geriatrician assessment). We consider this to be a

valid approach as both are assessments of baseline frailty based on pre-morbid functional ability derived from the clinical history. However, as the anaesthetist assessment was performed earlier in the surgical pathway when emergency decision-making was required, there may have been less time for accurate collateral history, which may account for the variance in scores. Other limitations include the small sample size from a single centre, calling into question the generalisability of the results, and the low survey response rate, introducing the possibility of non-response bias.

Our findings suggest that anaesthetists in our centre are well placed to assess frailty in the perioperative period and display close concordance with geriatricians when using the CFS as recently proposed in this journal. However, further education and training are warranted to improve anaesthetists' confidence in frailty assessment. A larger, multicentre study would help to ascertain the generalisability of these results and determine the need for incorporation of frailty assessment in the anaesthetic training curriculum.

## Declarations of interest

The authors declare that they have no conflicts of interest.

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## Effect of central venous pressure on back-flow and bolus events during vasopressor syringe changeover. Comment on *Br J Anaesth* 2020; 125: 622–628

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