



## Editorial

# Optimising pre-operative assessment for older people

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Anaesthetists are being asked to look after increasing numbers of older patients. This brings more complexity, and means that issues such as frailty and cognitive impairment, which are associated with adverse post-operative outcomes, have to be acknowledged and managed more frequently [1, 2]. Pre-operative assessment does not traditionally tend to identify and manage such issues proactively, but new guidance suggests a more comprehensive approach [3]. Having delivered joint anaesthetic and geriatric assessments in the pre-operative clinic, we believe there are several measures that can and should be undertaken by pre-operative teams and offer some practical advice from our experience.

## A frail-friendly pathway

Fitness assessment is one of the primary aims of pre-operative care, and frailty is a more useful factor for us than age when assessing older people. Frailty involves a state of increased vulnerability to stressors – of which surgery is certainly one. It is estimated to be not only present in 26% of community-dwelling people over the age of 85 years [4] but also occurs in much younger patients. It is a risk factor for delirium, mortality, morbidity, increased length of stay and discharge to a non-home facility [5]. It is worthwhile trying to identify those patients who are frail to inform the shared decision making process, in particular as frailty is not included in any of the current risk indices.

Operationalising the identification of frailty remains a major stumbling block for many. The traditional 'end of the bed' clinical impression unfortunately has limited use [6, 7]

and more formal methods are necessary. Although there is no universally accepted frailty screening tool in the pre-operative setting, there are a number that can be completed rapidly (e.g. Clinical Frailty Scale or Edmonton Frailty Scale), and identification of frailty in itself is probably more important than the precise tool used. In practice, we find that calculating a frailty score for each patient over 70 years is useful as it helps to highlight those who are likely to need further assessment and support. We find the Clinical Frailty Scale to be very quick to perform but it does have a learning curve and needs to take the patient's usual baseline into account. Although there is no agreed cut-off, we propose that those who score 5 (mildly frail) or higher would usually benefit from a customised frailty pathway.

Other pragmatic approaches may be included to avoid missing patients who may benefit from enhanced support. In our experience, concerns from a pre-operative nurse about cognition or functional ability are likely to justify a more detailed assessment. Another practical suggestion is to assess the patient as they walk into the clinic. Slow gait speed may reflect frailty, or underlying conditions such as cerebrovascular disease or Parkinson's disease. A timed up and go (stand up, walk 3 m and return to seat) that takes longer than 10 s is also associated with increased postoperative complications and 1-year mortality [8]. Using an approach such as this provides several opportunities to ensure that all patients with frailty have an entry point to the pathway. Ideally, General Practitioners would also have a role in referral for geriatric assessment before surgery and the electronic frailty index that is being

rolled out in primary care may soon be of use in screening [9].

There is no firm guidance on management of frailty pre-operatively but studies of pre-habilitation are ongoing. Frailty can be dynamic, so identification should prompt assessment of whether optimisation is possible in the elective setting. A comprehensive geriatric assessment (CGA) is advisable for diagnosis and management of selected patients. This is a multidomain multidisciplinary process that can take an hour or more, and so is resource intensive. Depending on the issues identified, other services such as physiotherapy may be recommended for strengthening exercises or occupational therapy and social services for help with complex discharge planning. Information from this assessment can feed into shared decision making. Where frailty is present, discussion of alternative treatments, or even the futility of treatment, may be appropriate. Assessment of the impact of frailty is nuanced and depends on the procedure being considered. For example, a very frail patient may still benefit from cataract surgery, whereas they may not have the reserve for a coronary artery bypass graft surgery. In short, frailty is an important factor but the context will also make a strong determination of how relevant it is.

## Collaborative models

Most UK hospitals have a local lead for peri-operative medicine, and a recent survey highlighted their desire for support in managing frailty and cognitive impairment [10]. More geriatricians who have training in surgical liaison are emerging and are ideal candidates to provide this support and help to deliver care within a frail-friendly pathway. The process of comprehensive geriatric assessment has been studied in high-risk older surgical populations and shows clear improvements in terms of functional and cognitive outcomes with reduced length of hospital stay [11]. Some centres have established joint services with geriatric medicine colleagues, but other professionals who can be upskilled in this area such as anaesthetists with an interest in peri-operative medicine, specialist nurses and physician associates can also contribute, with comprehensive geriatric assessment reserved for the more complex patients.

## The importance of cognitive impairment

The presence of cognitive impairment should trigger enhanced support, but it is often undiagnosed, with one study finding a prevalence of 60% in pre-operative vascular patients aged over 60 years [12]. A solution is to

ensure that older patients are screened by a trained nurse in the pre-operative assessment clinic. The Abbreviated Mental Test Score (AMTS) is a quick screening tool that agrees well with the more comprehensive Montreal Cognitive Assessment (MoCA) [13]. A score of 8 or less should prompt further workup. We also find conversing with the patient about risk to be an important component of the assessment. Some patients with cognitive impairment have an intact memory but difficulties with executive function emerge when discussing risks. Depression and anxiety are important differential diagnoses for cognitive impairment and should prompt appropriate referral.

If cognitive impairment is present, some practical steps should be taken. A longer appointment time helps to adequately consider mental capacity, increased peri-operative risks and the effect on recovery and rehabilitation. It is extremely useful to have a family member or other informant who can provide a collateral history, offer a second pair of ears to improve retention of information and advocate for the patient. If nobody is in attendance, then further enquiries should be made by telephone, with the patient's permission. In complex cases, especially where capacity is a concern, a further appointment should be made with geriatrician input if available. Where cognitive impairment is newly discovered, a formal referral to the local memory clinic should be triggered. Normally this should not delay surgery, but in advanced cases it may be advisable.

Dementia is a major risk factor for postoperative delirium [14] and we always attempt to determine delirium risk. Other important predisposing factors include: functional impairment; sensory impairment; previous delirium; cardiac or cerebrovascular disease and Parkinson's disease. Delirium is so important that prevention and management should be led from the hospital boardroom [15]. Everybody that works in the hospital setting should have mandatory delirium training – whether health professional, catering staff or porter. This can be practically achieved by embedding it within dementia training. Patients at risk of delirium should have multicomponent interventions to reduce the incidence, severity and duration of delirium [16].

Weighing up the likely overall impact of dementia is also important. In some cases, the prognosis for dementia may be worse than the condition being considered for surgical management and a palliative approach is indicated. Male sex, increased age, low cognitive score and vascular-type dementia are all poor prognostic indicators [17]. A collateral history of rapid deterioration in cognition or function should also prompt caution. If

dementia is stable or slowly progressing, then people who are not frail can live for many years with a good quality of life.

## Shared decision making

Open communication and shared decision making help patients to balance the risks and benefits of surgery. There is room for improvement in the pre-operative assessment clinic as the level of patient involvement is low [18]. A local system that allows collaboration and communication between anaesthetist, geriatrician and surgeon supports this process. For example, if a patient considering cancer surgery believes their quality of life is likely to improve, this perception may be incorrect and the potential gain in lifespan may not be very attractive even in the setting of low anaesthetic risk. The risk of postoperative functional decline also needs to be considered as it may be severe and irreversible. Information from all three specialists may be required to help the patient make an informed decision. Patient preferences, values and goals of treatment are vital components in shared decision making.

For patients with dementia there is an opportunity to involve family as advocates, and to ensure that all aspects of the proposed treatment are explored. The consent process should include discussion of the risks associated with cognitive impairment itself, the main concern being higher delirium rates but also increased peri-operative mortality [19], prolonged hospital stay and greater likelihood of discharge to a place other than home [20]. Compared with controls, patients with dementia undergoing surgery have a higher incidence of acute kidney injury, pneumonia, septicaemia, stroke and urinary tract infection [1]. The higher risk associated with frailty also calls for a careful discussion, including the likely effects on rehabilitation time and potential after surgery.

We have performed several joint reviews of patients who need enhanced support in the pre-operative assessment clinic and a further appointment with a geriatrician and/or surgeon is often necessary, to take on board feedback. The reality is that more time needs to be spent with these patients but we are usually happier with the outcome when true shared decision making is achieved.

## Planning for admission

Planning for admission of older patients should include ensuring family members are available to attend at short notice in the event that delirium occurs. Many hospitals now employ a 'Carer's Passport' that allows extended

visiting times and encourages presence at mealtimes. Completion of a 'This Is Me' booklet [21] helps to inform hospital staff of patient needs and any particular measures that need to be taken, such as using modified consistency diet, hearing aids or preferred mode of address. Care planning should include consideration of whether a ceiling of treatment is appropriate, in advance of any deterioration occurring. Admission to a dementia-friendly ward should be arranged if possible, where ward design can help to minimise increased confusion and clearly signposts toilets, call bells and the current time and date. Anaesthetists should familiarise themselves with local resources – again a geriatrician colleague can help here.

Medications should be reviewed in the pre-operative assessment clinic with advice provided to the admitting team where appropriate. Although some guidelines recommend cessation of anti-dementia medications, there does not seem to be any convincing evidence for this, and we believe that continuation is reasonable. Choice of anaesthetic should be tailored to the individual needs of the patient, as strong evidence in this area is lacking. Both pain and opioids are risk factors for delirium, so multimodal analgesia with use of regional anaesthesia where appropriate is recommended. If possible, the patient should be scheduled early in the operating list. We routinely provide advice on optimisation of nutritional status, functional capacity, oral hygiene and smoking cessation. We also counsel the patient's relatives with regard to access to visual and hearing aids, bringing in day clothes to encourage early mobility, keeping drinks within reach and providing frequent reorientation. This shared ownership of tasks helps to achieve patient-centred goals and brings a sense of teamwork.

## Conclusion

Today's pre-operative assessment of older people must assess for frailty and cognitive impairment, and offer a pathway for enhanced support if needed (see Box 1). Increased peri-operative risks associated with these conditions should be discussed in a shared decision-making

### Box 1 Summary messages:

- 1 Use a frailty score
- 2 Check cognition
- 3 Offer enhanced support to those who need it
- 4 Collaborate with geriatricians
- 5 Use more shared decision making
- 6 Plan the admission

process. Patient goals should be identified and peri-operative management should be guided by all these considerations. Although comprehensive geriatric assessment remains the gold standard, other collaborative models with anaesthetists and specialist nurses or physician associates can deliver a good standard of care.

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