



Ageing Population

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What Intensivists Can Learn From Geriatric Medicine

In this article we discuss mind, mobility, medications, multi-complexity, and what matters most. These are key domains from geriatric medicine that are relevant to the practice of intensive care medicine.

The notion that advanced age is a sufficient reason to decline admission to the Intensive Care Unit (ICU) is no longer widely accepted by clinicians, patients, or their families. In many settings, older adults are now admitted to the ICU in situations where they once would not have been (Tripp et al. 2015). Globally, we have an ageing population and live in an era where advances in medicine mean people live longer. Accordingly, there is an increasing potential for overlap between the groups of patients who require geriatric care and those who require intensive care.

In some respects, geriatric care and intensive care are very different specialties. Geriatricians often have the luxury of time to consider chronic issues in an outpatient setting or while supporting a patient's recovery from illness, while intensivists typically deal with acute issues that are an immediate threat to the patient's life. Despite these differences, the specialties have similarities. Both deal with the care of complex patients. Both involve the management of disease syndromes with a range

of specific aetiologies, such as sepsis in the ICU and dementia in the geriatric setting. Both geriatricians and intensivists work with families in situations where patients may be unable to advocate for themselves. In doing so, both communicate complex clinical information, typically as part of a multidisciplinary team. Given these similarities, the principles that underpin geriatric medicine may be relevant for practising intensivists. This editorial outlines these principles within the "5Ms framework" that includes mind, mobility, medications, multi-complexity, and what matters most (Molnar and Frank 2019).

Mind

Delirium, Dementia, Depression

Delirium affects a third of hospitalised older adults (Marcantonio 2017), and a third of ICU patients (Salluh et al. 2015). There are many different causal pathways that result in the "brain failure" syndrome of delirium (Marcantonio 2017). Although geriatricians and intensivists both encounter delirium commonly, there are substantial differences in manifestations of disease they encounter, which may reflect differences in underlying pathophysiology. The underlying pathophysiology of delirium in a normally fit and well 30-year-old who is intubated following trauma is probably different to that of delirium in a comorbid older adult in a geriatric ward. Moreover, the management approach to delirium in

the ICU setting and in the geriatric setting differs in many fundamental ways. The care of a patient with hyperactive delirium in the ICU is more likely to require the use of sedatives to preserve lifesaving endotracheal tubes and invasive lines. That said, with the possible exception of dexmedetomidine in the ICU setting (Reade et al. 2016), there is little evidence that pharmacological interventions are effective at aiding the resolution of delirium in either setting (Burry et al. 2019, Nikooie et al. 2019). In both the ICU and in the geriatric ward, the best treatment for delirium remains to treat the underlying cause and to provide good supportive care (Ely 2017). One issue that geriatricians are acutely aware of is that a diagnosis of delirium can sometimes signal that a patient has underlying dementia (Marcantonio 2017). Older patients with dementia have an increased risk of developing complications when they are hospitalised (Watkin et al. 2012). Because dementia is a risk factor for delirium (Marcantonio 2017), and the presence of delirium confounds the assessment of baseline cognition, establishing the degree of underlying cognitive impairment may be important when assessing whether ICU admission is in a patient's interest. If a patient has seen a geriatrician, the geriatrician may be well placed to provide important collateral information that can guide clinical decision making. The possibility that the presence of delirium heralds

underlying dementia probably receives less attention in the ICU than it does in the geriatric ward. In part this is probably because in the ICU setting delirium sometimes occurs in young patients who have a very low risk of dementia. However, even in older adults in the ICU who have an episode of delirium that represents the first manifestation of an evolving cognitive disorder (Marcantonio 2017), the degree of dementia present is rarely sufficiently severe to require specialist geriatric follow-up. Moreover, while tools such as the AD8 Dementia Screening Interview (Duggan et al. 2017) or the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) (Jorm 2004), which can be administered on an "informant" such as a family member, are useful screening tools to identify cognitive impairment, formal evaluation is best undertaken when the patient is well. Despite this, intensivists are well positioned to educate families if delirium occurs.

Once a patient has recovered from their acute illness, a primary care physician or an intensivist in a dedicated ICU follow-up clinic should address concerns about underlying cognitive impairment and attempt to identify other psychiatric sequelae of critical illness like anxiety and depression, which are common in patients of all ages (Nikayin et al. 2016). If there is diagnostic uncertainty about the possibility of dementia, a referral for assessment by a geriatrician may be appropriate at that stage.

Mobility

Immobility is associated with poor outcomes for ICU patients and older adults who are general hospital inpatients. However, such associations are confounded by indication bias, because patients who are less sick are the ones who are able to mobilise. While physiotherapy has an established role in the ICU (Hodgson and Tipping 2017), and we may feel compelled to get the patient out of bed and moving, the evidence-base that supports any specific

approach to physiotherapy in the critically ill is lacking. Randomised controlled trials, predominantly those involving older adults with exacerbations of chronic obstructive pulmonary disease (Greening et al. 2014) and stroke (AVERT trial group 2015) provide a salutary lesson that when it comes to mobility more is not necessarily better in the acute phase. While consensus guidelines (Hodgson et al. 2014) support mobilisation in many critically ill patients, further evidence from randomised controlled trials is urgently needed.

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Medications

Much of the evidence in support of therapeutics for chronic medical conditions comes from studies that exclude older adults with multiple co-morbidities. Despite this, around 30% of adults aged 65 and older take five or more medicines. Such polypharmacy increases the risk of adverse events occurring and for some older adults, in particular, there is a risk of the consequences of the treatment being worse than the disease. In such circumstances, de-prescribing, the process of tapering or stopping drugs to minimise polypharmacy, may improve patient outcomes (Scott et al. 2015). ICU discharge is the perfect de-prescribing opportunity. Intensivists can potentially capitalise on the disruption to a patient's usual medication regimen that occurs as a consequence of acute illness.

They can work collaboratively with a patient's family physician, geriatrician or pharmacist to evaluate the appropriateness of each medicine. Ongoing indications for all medicines should be considered taking into account the patient's wishes, the potential harms of each medicine, and whether they will add benefit to the patient's remaining years. In the case of drugs that are commonly initiated in the ICU like amiodarone, stress ulcer prophylaxis, sedatives, and antipsychotics, careful consideration should be given to whether these medicines should continue beyond the ICU. If ongoing use of these medicines is required then a date to review or stop them should be documented.

Multi-complexity

Multimorbidity, complex biosocial situations

Multimorbidity means having two or more long term conditions that can be managed but not cured. It is associated with reduced quality of life, increased healthcare use, and increased mortality (Yarnall et al. 2017). Patients with multimorbidity are potentially more vulnerable to acute illnesses like sepsis, and are at high risk of multiorgan dysfunction and death when these illnesses occur (Zador et al. 2019). ICU clinicians are well versed in recognising the complex interplay between age, multimorbidity, and frailty. The accumulation of long-term health conditions (multimorbidity) as we age leads to frailty. The presence of frailty in turn can be used to identify older adults with multimorbidity who are vulnerable (Yarnall et al. 2017). Thus, measuring frailty using the clinical frailty scale (Flaatten et al. 2017) may help intensivists recognise patients who are at risk of adverse outcomes, and who may derive greater benefit from speciality older adult consultation. Conceptually, the presence of multimorbidity and frailty are important for intensivists because they affect the likely number of years of life that a patient has remaining. Considering each patient



in ICU in terms of the expected number of years until death rather than just their chronological age, may be useful in framing complex decisions and in considering what matters most to a given patient.

Matters Most

“What matters most to you?” is a way of approaching end of life care conversations, and managing multi-complexity in a patient-centred way (Fried et al. 2020). Patients and their families benefit from clear communication about planned ICU admission and therapy (Cardona et al. 2019). Such advanced planning benefits patients and intensive care teams alike. Advance care planning such as advanced directives or care guides can help inform decision making when patients are referred during a medical or surgical emergency. However, despite the potential usefulness of such planning, there are ethical, legal, cultural, societal and individual patient factors that must be considered in each case (Metaxa 2020).

Developments in the field of perioperative medicine have broadened our view of what constitutes a successful surgical outcome to include preservation of performance,

functionality, autonomy, and quality of life (Olotu et al. 2019). Such considerations are important because they allow for holistic planning with patients who may need ICU care post procedure. Such planning may include deciding in advance not doing a procedure if it will not enable a patient to spend their remaining years as they had planned.

Conclusions

In the future, increasing numbers of older adults will require care in the ICU. The 5Ms of geriatrics “Mind, Mobility, Medications, Multimorbidity, and Matters Most” offer a guide to reframe that care using geriatrics principles. These principles include careful screening for delirium; providing appropriate education and follow up of patients to identify neuropsychiatric sequelae of critical illness; consideration of mobility and functional recovery; de-prescribing where appropriate; recognising that frailty and comorbidity are potentially more important than age in determining how much longer a given patient is expected to live; and, above all else, taking the time to appreciate what matters most to patients and their families.

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Conflicts of interest

The authors report no conflicts of interest. ■

Key Points

- Globally, we have an ageing population and live in an era where advances in medicine mean people live longer.
- Geriatric care and intensive care are very different specialties but at the same time share many similarities.
- The 5Ms framework outlines the principles that underpin geriatric medicine and that may also be relevant for practicing intensivists.
- These include mind, mobility, medications, multimorbidity and what matters most.
- The 5Ms of geriatrics offer a guide to reframe care using geriatrics principles.

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