

## COMMENTARY

# The Scottish Intercollegiate Guidelines Network: risk reduction and management of delirium

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## Abstract

Clinical and research interest in delirium has been rising over the last 15 years. The Scottish Intercollegiate Guidelines Network (SIGN) publication on delirium is a state-of-the-art synthesis of the field, and the first UK guideline since 2010.

There is new guidance around delirium detection, particularly in recommending the 4 'A's Test (4AT). The 4AT has the advantage of being brief, embeds and operationalises cognitive testing, and is scalable with little training. The guidelines highlight the importance of non-pharmacological management for all hospital presentations involving the spectrum of cognitive disorders (delirium, dementia but at risk of delirium, delirium superimposed on dementia). Pharmacotherapy has a minimal role, but specific indications (e.g. intractable distress) are discussed.

Advances in delirium research, education and policy, have come together with steady changes in the sociocultural context in which healthcare systems look after older people with cognitive impairment. However, there remains a gap between desired and actual clinical practice, one which might be bridged by re-engaging with compassionate, patient-centred care. In this respect, these SIGN guidelines offer a key resource.

## Keywords

*delirium, clinical guidelines, public health, older people*

## Key points

- The SIGN guidelines are a landmark publication on delirium, representing the first UK guidance for nearly a decade.
- New recommendation for screening tool in hospital patients: the 4'A's Test
- There has been some progress in delirium research, education, practice and policy, though there is more to achieve.

## New perspectives on old problems

Delirium is fundamentally about the brain's aberrant response to acute illness [1]. Though described since antiquity [2], interest in delirium has flourished over the last 15 years. What have been the drivers? Certainly there are gaps in our basic understanding of the condition: How long will this delirium last? Does it depend on the aetiology(ies)? How does *E. coli* in the bladder lead to delusions? Does having dementia skew the palette of presenting neuropsychiatric symptoms? Could mobility interventions lead to enhanced

delirium recovery? Could repeated episodes of delirium accelerate the underlying trajectory of cognitive decline?

These questions have been exercising researchers for some time, but it would be fanciful to think that academic activity in itself has led to wider recognition of the significance of delirium. In the UK and beyond, it has been understood that delirium is associated with poorer outcomes in every patient safety measure; therefore, delirium care is intimately related to good care for all [3]. This is intuitive when delirium is framed as acute decompensation of brain function in frail people. Achieving delirium prevention requires strategic change at all system levels, from

individuals, to hospitals, to populations. While challenging to address, the potential rewards are correspondingly great.

### A systematic approach to detection and management

The publication of the Scottish Intercollegiate Guidelines Network (SIGN) guideline on delirium is a state-of-the-art synthesis of the field [4]. It consolidates previous work and guidelines, not least the pivotal publication of NICE CG103 [5], yet offers new recommendations, particularly around detection and a more explicit focus on communication and follow-up.

Delirium detection is a key clinical priority, and no patient safety intervention—including reducing falls, length of stay, rehabilitation needs—can be realised without robust and systematic pathways to diagnosis. Given that 50–80% of delirium is undiagnosed [6, 7], even in geriatric medicine wards, the development and validation of the 4 'A's Test (4AT) has enabled an advance on NICE CG103 guidance (largely an unstructured reminder of delirium symptoms). The strength of the 4AT comes from its brevity (<2 minutes), embedding specific ascertainment of altered arousal as a first step, operationalising the scoring of cognitive tests – including those unable to be formally tested—and so needs little training [8]. In contrast, the Confusion Assessment Method (CAM) (even the briefest form, the 3D-CAM, designed to be administered in 3 minutes) still requires training, particularly around observer ratings to achieve consistent and reliable detection [9, 10]. The 4AT offers a step-change in the possibilities for scalable delirium diagnosis, and progress here fosters a culture of delirium visibility.

Traditional approaches to delirium management regarded prevention and treatment separately, each with their own pharmacological and non-pharmacological approach. The SIGN guidelines give renewed prominence to the principle that non-pharmacological prevention and treatment is essentially identical in patients across the spectrum of cognitive disorders (delirium, dementia but at risk of delirium, delirium superimposed on dementia) [11, 12]. Strategies include addressing pain control, patient re-orientation, minimising ward moves, promoting sleep hygiene, early mobilisation, maintaining regular bladder and bowel function, and optimising nutritional and fluid intake. Families and carers should be offered opportunities to be actively involved in care delivery, though this may not always be appropriate depending on carer burdens leading up to admission. Ultimately, families need to have confidence in their relative being cared for in a delirium-friendly setting.

Any definitive role for pharmacological management remains to be established and the guidelines serve as a prompt for minimising pharmacotherapy. Useful considerations for medication review include: avoidance of benzodiazepines (except in withdrawal or Lewy-body disease) as these may perpetuate delirium; attention to cumulative

anticholinergic burden (e.g. digoxin, atenolol, furosemide, warfarin); careful titration of analgesia to avoid under-treated pain or overdosed opioid toxicity. There may be a role for a short course of antipsychotics for patients with intractable distress (e.g. risperidone 0.5 mg b.d. for 2 days).

Communication and follow-up are emphasised in the guidelines. Communicating diagnoses with patient and families is crucial, and patient/carer understanding should yield benefits for early detection and monitoring, assisting with care planning and ease anxiety for all parties. Delirium can both unmask and exacerbate pre-existing cognitive impairment [13]. Currently, patients are often just referred to memory clinics, which may not be an optimal use of those services for everyone with delirium. A common problem is where best to allow someone to recover from delirium—those patients for whom ongoing medical management could be met in the community but would benefit from reliable interface services. It is likely that such services, in close collaboration with community mental health, need to be developed in order to track delirium resolution. It is not known whether community-based delirium recovery services should include a programme of cognitive rehabilitation.

### Challenges and opportunities for culture change

What are the challenges for implementation? Are guidelines and educational initiatives enough to develop good clinical practice in systematic delirium detection and management? Quantifying distress and adverse outcomes from delirium—is this sufficient to attract research funding in proportion to delirium prevalence?

Geriatricians must show leadership in specialist delirium care, while all healthcare professionals need to adopt delirium as being their responsibility; the burden of delirium is simply too high. Many healthcare professionals gloss over the nuances and reduce delirium management to 'treating the underlying cause'. Continual promotion of delirium detection with formal instruments, mitigating against delirium complications (particularly inpatient falls), offering preoperative cognitive assessments to quantify delirium risk, considering bulbar function in hypoactive delirium, actively assessing pain, scrupulous attention to distress, communication with patients, families and colleagues, seeking to enhance delirium recovery even after discharge—all these are vital ways of demonstrating specialist skills across a geriatrics multidisciplinary team.

Wider culture change in delirium has benefitted from seminal work identifying gaps between desired and actual practice [14], though there is more to achieve. Emerging themes around lack of clinical ownership of delirium patients, assumptions that a degree of cognitive impairment is normal in older people, under-appreciation of distress, has led to work-based (rather than disease-based) educational interventions [14]. Attitudes and knowledge are deeply intertwined, both with an impact on delirium care. In a 2006 UK-wide

survey of trainees, we showed widespread lack of basic knowledge despite general acknowledgement of the clinical significance of delirium [15]. Exposure to geriatric medicine training only helped to a small degree [16]. By 2013, a repeated survey showed improvement in many domains, though the core diagnostic criteria remained poorly understood [17].

Despite some evident progress, there still appears to be a sociocultural resistance to embracing care of complex older people with cognitive impairment. Without the requisite skills or experience, it is more convenient to ‘see beyond’ the patient and revert to ingrained processes of healthcare. For example, altered arousal is a core part of delirium – because it is ubiquitous on older people’s wards, staff do not recognise that reduced eye contact, slumped posture and drowsiness as a highly abnormal presentation of brain-stem dysfunction. Yet such a patient may receive assiduous documentation of heart and breath sounds. Changes in arousal and attention come hand-in-hand, such that demonstrating acute changes in arousal may be diagnostic in delirium even if (especially if) cognition cannot be formally assessed [18]. Together, arousal and attention are distributed brain functions, so delirium represents gross cortical and subcortical decompensation in the face of acute illness. Highlighting this can often lead to a moment of realisation that it is the *patient response* to acute illness, rather than the specific illness itself (often disregarded as uninteresting; e.g. urine infection, dehydration, hyponatraemia), that can lead to catastrophic outcomes after delirium.

The SIGN guidelines are published at a time when interest in, and concern for, older frail people is high; the individual and societal impact of health problems in ageing is apparent to all. If delirium is a measure of the degree to which we as healthcare professionals practice with compassion, then the imperative will be to make continued headway on improving delirium care in all respects [19]. These guidelines on delirium are an important component of that future.

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