Policy and Practice Update
Clinical practice guidelines for the management of delirium in older people in Australia

Joanne Tropea, Jo-Anne Slee and Caroline A Brand
Clinical Epidemiology and Health Service Evaluation Unit, Royal Melbourne Hospital, Parkville, Victoria, Australia
Len Gray
Academic Unit in Geriatric Medicine, The University of Queensland, Brisbane, Queensland, Australia
Tony Snell
Clinical Governance Directorate, Royal Melbourne Hospital, Parkville, Victoria, Australia

Delirium is a common and serious condition which is often overlooked or misdiagnosed in older people. In 2006, the first set of national clinical practice guidelines for the management of delirium in older people were developed. This paper provides an abbreviated version of the guideline document which includes recommendations for the detection of delirium (diagnosis and screening), assessment and prediction of risk factors for delirium, prevention of delirium and interventions to manage people with delirium. The guidelines reflect the available evidence base and highlight the limited high level research in delirium care, particularly in the areas of symptom management and screening for delirium.

Key words: aged, Australia, delirium, guideline.

Background information
This paper provides a synopsis of the Clinical Practice Guidelines for the Management of Delirium in Older People, which was commissioned on behalf of the Australian Health Ministers’ Advisory Council (AHMAC), by the AHMAC Health Care of Older Australians Standing Committee. Although delirium guidelines have been developed in some local health settings (especially hospitals), these guidelines are the first set of comprehensive national clinical practice guidelines for the management of delirium in older people specifically developed for the Australian health-care system [1,2]. An external review of the draft guidelines was conducted involving 22 national and international reviewers.

The cost of delirium to the health-care system is substantial. Research in the USA indicates that hospital stays complicated by delirium account for approximately 1.5 million inpatient days [16], and $US6.9 billion in Medicare expenditure each year [17]. Several other US studies suggest that delirium prevalence and incidence varies across patient populations and health-care settings. Some of the variation is explained by study methods, such as patient age group, inclusion of cognitively impaired patients, length of patient follow up, and methods for defining and diagnosing delirium. Table 1 collates some of the available data on delirium incidence and prevalence rates in different settings; however, there are very few Australian-based epidemiological studies. Given that older people are at increased risk of delirium, we can expect an increase in the burden of delirium associated with the ageing population.

Epidemiology of delirium
Delirium is a common and serious condition among older people. Studies show that delirium prevalence and incidence varies across patient populations and health-care settings. Some of the variation is explained by study methods, such as patient age group, inclusion of cognitively impaired patients, length of patient follow up, and methods for defining and diagnosing delirium. Table 1 collates some of the available data on delirium incidence and prevalence rates in different settings; however, there are very few Australian-based epidemiological studies. Given that older people are at increased risk of delirium, we can expect an increase in the burden of delirium associated with the ageing population.

The cost of delirium to the health-care system is substantial. Research in the USA indicates that hospital stays complicated by delirium account for approximately 1.5 million inpatient days [16], and $US6.9 billion in Medicare expenditure each year [17]. Several other US studies suggest that delirium prevention would reduce both acute and long-term care costs [18]. However, no such cost data exist for the Australian health-care system [19].

Aetiology and risk factors
Delirium aetiology is complex and multifactorial (see Fig. 1), involving an interaction between predisposing patient factors (or vulnerabilities) and precipitating factors (or insults) [20].

Although there are many potential causes of delirium, the more common include severe illness, infection, and medication and alcohol use/withdrawal. In most cases, the cause of delirium can be identified [21], and in older people, multiple causes can coexist [20,22].

There is high level evidence that older age; cognitive impairment; visual impairment; depression; abnormal serum sodium; use of indwelling catheter; use of physical restraint; and the addition of three or more medications are risk factors for the development of delirium in older people. The recommendations have been summarised using the National Health and Medical Research Council pilot program 2005–2006 additional levels of evidence and grades for recommendations for developers of guidelines [1]. An external review of the draft guidelines was conducted involving 22 national and international reviewers.
The evidence is mainly derived from studies that were both hospital-based and conducted outside of Australia, making generalisation to other settings difficult.

Detection and diagnosis of delirium

The definition of delirium and its differentiation from dementia was first outlined by the American Psychiatric Association (APA) in 1980. Box 1 contains the diagnostic criteria for delirium. However, the evidence is mainly derived from studies that were both hospital-based and conducted outside of Australia, making generalisation to other settings difficult.
**Box 2: Recommendations for the detection and diagnosis of delirium in all health-care settings**

- A structured process to screen for and diagnose delirium should be established in all health-care settings (expert opinion).
- A formal cognitive function assessment should be performed on all older people as part of the routine admission process to all health-care settings (expert opinion).
- Each of the tools recommended for screening and diagnosis of delirium require specific training (expert opinion).

**Table 2: Delirium prevention strategies**

<table>
<thead>
<tr>
<th>Environmental strategies</th>
<th>Clinical practice strategies</th>
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<tbody>
<tr>
<td>Lighting appropriate to time of day</td>
<td>Encourage/assist with eating and drinking to ensure adequate intake</td>
</tr>
<tr>
<td>Quiet environment especially at rest times</td>
<td>Ensure that those who usually wear hearing and visual aids are assisted to use them</td>
</tr>
<tr>
<td>Provision of clearly visible clock and calendar</td>
<td>Regulation of bowel function</td>
</tr>
<tr>
<td>Encourage family/carer involvement in care</td>
<td>Encourage and assist with regular mobilisation</td>
</tr>
<tr>
<td>Encourage family/carer to bring in personal and familiar objects</td>
<td>Encourage independence in basic activities of daily living</td>
</tr>
<tr>
<td>Avoid room changes</td>
<td>Medication review</td>
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<tr>
<td></td>
<td>Promote relaxation and sufficient sleep</td>
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<tr>
<td></td>
<td>Manage discomfort or pain</td>
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<tr>
<td></td>
<td>Provide orienting information</td>
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<tr>
<td></td>
<td>Minimise use of indwelling catheters</td>
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<td></td>
<td>Avoid use of physical restraints</td>
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<tr>
<td></td>
<td>Avoid psychoactive drugs</td>
</tr>
<tr>
<td></td>
<td>Use of interpreters and other communication aids for CALD patients/clients</td>
</tr>
<tr>
<td></td>
<td>Use of ATSI liaison officer for ATSI populations</td>
</tr>
</tbody>
</table>

ATSI, Aboriginal and Torres Strait Islander; CALD, culturally and linguistically diverse.
A modified version of HELP was recently tested in Australia [29]. This before-and-after study utilised trained volunteers who omitted the sleep and mobilisation protocols. Authors reported a reduced incidence and severity of delirium among intervention patients. However, there are a number of methodological limitations with the study including the small sample size (n = 37). In addition there are distinct differences between the USA and Australia with respect to the availability and use of volunteers in the health sector, and further Australian research is required to determine the sustainability of a program which is reliant on a volunteer workforce.

Box 3 summarises recommendations for the prevention of delirium.

Management of delirium

Delirium management entails a multifaceted approach, comprising the following elements:

- Investigate and address the cause of delirium
- Manage the symptoms of delirium
- Prevent complications
- Educate the patient/client and their carers/family

Management of delirium symptoms is largely nursing care based, and focuses on the non-pharmacological strategies outlined in the section on delirium prevention (Table 2). While there is general agreement that this approach is beneficial, there is little evidence to support it and further research is needed to establish the effectiveness of such practices.

Management of severe behavioural disturbance

Most episodes of delirium can be managed with non-pharmacological interventions. Antipsychotic medication is indicated when behavioural or emotional disturbance is causing significant distress to the person with delirium; is placing them or others at risk; or is interfering with essential investigations or treatment; and the symptoms cannot be managed using non-pharmacological methods [17,30]. It is essential that a clear and structured approach to monitoring, review and documentation of patient status is followed when prescribing antipsychotic medications (see Fig. 2).

Box 4 summarises recommendations for the management of delirium.

Limitations

While there is general agreement that delirium is a major contributor to morbidity and mortality in older populations, there is extremely limited research data to guide clinical practice. Most of the available information emanates from international settings which further raises concerns about the relevance of context-specific interventions and their generalisability to Australian settings. In addition, there is a virtual absence of cost-effectiveness data to guide informed development of evidence-based health policy. Although the target population for the guidelines included Aboriginal and Torres Strait Islander populations, there was no evidence to guide culturally specific recommendations, a major gap in our knowledge and understanding of the burden of this condition in Australia’s indigenous population.

One of the limitations in delirium research relates to the difficulties inherent in identifying prevalent and incident delirium within a system that currently does not provide a structured approach to screening and diagnostic assessment, and in which patient length of stay is reducing. Such research studies are therefore highly resource-intensive and costly. The guideline working group strongly recommends that funding bodies respond to this gap in knowledge in order to contribute to improved health outcomes for our ageing population.

Implementation

The challenge for health-care organisations will be the practical implementation of the guidelines. It will necessitate organisations to consider the prevalence of delirium in their patient population, as well as risk of incident delirium, in order to design systems that will efficiently meet the needs of their population. Such systems will need to integrate processes for the prevention and early intervention of delirium, as well as the detection and monitoring within usual care processes. Complex health service changes may be required, and considerable planning is essential to develop robust implementation and evaluation frameworks [34]. Despite all these limitations the guidelines provide a structured approach for implementation.
Figure 2: Pharmacological management of the delirious patient with severe behavioural or emotional disturbance.

Person diagnosed with delirium with severe behavioural or emotional disturbance

- Ensure that medical cause for agitation such as pain, constipation, urinary retention, hypoxia, etc. is treated &
- Utilise non-pharmacological strategies to manage the symptoms, e.g. one-on-one nursing, patient support person

Symptoms ease
- Continue use of non-pharmacological strategies and monitor status

Symptoms worsen
- Assess patient’s decision-making capacity
- Consider use of antipsychotic medication
- Continue with non-pharmacological strategies

Symptoms unchanged
- Establish level of monitoring
- Address risks
- Reduce exacerbating factors
- Introduce containing measures

Consult with clinicians with expertise in delirium management

Medication plan
- Consider issues of informed consent
- Document clear management plan
  - Medication
  - Dose, maximum daily dose
  - Frequency of titration
  - Frequency of review
  - Components of review: level of agitation, total dose past 48 hours, side effects
    - (sedation, extrapyramidal)
- Haloperidol or other antipsychotic medication such as olanzapine if concerns about extrapyramidal side effects

Commence at low dose:
E.g. haloperidol 0.25–0.50 mg orally; or if existing extrapyramidal signs olanzapine 2.5 mg orally; or risperidone 0.25 mg orally.

Ongoing monitoring of patient status by nursing staff/careers

Review of patient status by medical physician

Are symptoms unchanged, better/worse?

Symptoms are better

Symptoms are worse or unchanged

Titrated antipsychotic medications need close monitoring by nursing and medical staff
Box 4: Recommendations for the management of delirium – identify cause, manage symptoms and prevent complications

### Investigation and treatment of delirium cause

The underlying cause of delirium should be investigated and precipitating factors treated (expert opinion).

### Management of symptoms in all people with delirium

Non-pharmacological strategies should be incorporated into the care plan of all older persons with delirium across all health settings; and should always be utilised as a first-line strategy to manage the symptoms of delirium (expert opinion).

Delirium is best managed by clinicians with expertise in delirium management, and in most cases should involve a multidisciplinary team (expert opinion).

### Management of severe behavioural and/or emotional symptoms

In addition to non-pharmacological strategies, the following reorientation and reassurance strategies should be considered for people with severe behavioural and/or emotional symptoms: one-on-one nursing or the use of a trained support person; opportunity for family member/carer to remain with the patient at all times (including overnight); consistency of staff members caring for the person; and provision of relaxation strategies to assist with sleep (expert opinion).

Specialised delirium rooms should be considered for delirium patients with severe behavioural and/or emotional disturbance (expert opinion).

Expert psychiatric consultation should be considered for people with severe behavioural and/or emotional symptoms (expert opinion).

Caution should be exercised in prescribing antipsychotic medications to older people with delirium (expert opinion).

Antipsychotic medications, for the management of delirium in older people, should be reserved for those cases where the person experiences severe behavioural and/or emotional disturbance (expert opinion).

When antipsychotic medications are indicated the following processes should be incorporated into the patient care plan:

- The indication(s) for its use must be documented and reviewed regularly.
- Commencement of the antipsychotic should be accompanied by documented recommendations about: (i) the dosage of medication; (ii) the mode of medication delivery; and (iii) the frequency with which patient status is to be reviewed by a medical physician.
- Frequency of medical review will vary according to patient status. For example, a patient with significant agitation may require 4 hourly medical review, and a patient with less significant agitation may require 8 hourly medical review.
- Titration must commence from a low dose – typically the equivalence of 0.25–0.50 mg of haloperidol; 2.5 mg orally; or risperidone 0.25 mg orally.
- Close monitoring by nursing and medical staff is required. The dosage and frequency of antipsychotic medication should be titrated carefully against the level of patient agitation at each review.
- It is important that nursing staff caring for patients on antipsychotic medication are able to consult regularly with medical staff.

### Discharge planning and follow up

Information about delirium should be made available to people who have experienced delirium and their family/careers (expert opinion).

Discharge planning for people who have experienced delirium should include follow up, professional monitoring and treatment (expert opinion).

Postdeltirium counselling should be considered for people who have experienced delirium (expert opinion).

### Staff education

Staff education strategies aimed at increasing knowledge and awareness about delirium in older people should be considered in all health-care settings (hospital settings – grade D, [31,32]; all other settings – expert opinion).

Delirium management should be part of the basic curricula of medical, nursing and allied health university training, and be included in training of other care workers and ongoing professional development programs (expert opinion).

Implementation of delirium management guidelines – accompanied by education and reinforcement – should be considered in all health-care settings (hospital settings – grade D, [33]; all other settings – expert opinion).

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**Key Point**

- Delirium in older people is often overlooked or misdiagnosed.

- This paper presents an abbreviated version of the first nationally developed clinical practice guidelines for the detection, risk factor assessment, prevention, and management of delirium in older people.
References


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