Demystifying Delirium: SIGN 157 Guideline Recommendations

Ajay Macharouthu
@ajjuss
Staff Specialist CL Psychiatry - Older Persons, Cairns
Honorary Clinical Senior Lecturer, Univ of Glasgow
Co-Chair – SIGN Delirium Guideline
Today - Prevalent and Incident delirium

(community acquired, or
hospital acquired)

Excludes Paediatric Delirium

SIGN 157
Evidence-based guidance on delirium:
• Detection
• Risk reduction
• Management
• Follow up
• Advice for patients and carers.

www.sign.ac.uk/sign-157-delirium.html
Delirium proposal
Delirium guideline development group

Consultant Physicians

Consultant Psychiatrists

General Practitioner

Consultant in Neuropsychology

Health Economist

Pharmacist

Lay representatives

Consultant Anaesthetist

Consultant in Emergency Medicine

Consultant Geriatricians

Nurse Practitioner

Allied Health Professional

Consultant in Critical Care and Anaesthesia
Delirium key questions

1. What assessment tool(s) should be used to detect delirium and when?
2. What tool(s) should be used for monitoring purposes and when should they be used?
3. What (other) investigations are useful when assessing a patient for delirium?
4. What risk reduction strategies for patients at risk of delirium are effective?
5. What are the most effective non-pharmacological strategies for managing patients with delirium?
6. What are the most effective pharmacological strategies for managing patients with delirium?
7. What follow-up care should patients receive after experiencing delirium?
Key questions

- Adults over 18 years at risk of, or experiencing, delirium
- Home, long-term care, hospital, hospice
- Excludes: delirium secondary to alcohol, patients with delirium tremens, paediatric delirium
- Comorbidities considered: dementia, depression, frailty, head injury, learning disability, Parkinson’s disease, stroke
Evidence review

- Systematic reviews and meta-analyses of RCTs
- RCTs
- Systematic reviews and meta-analyses of case-control and cohort studies
- Case-control and cohort studies
- Non-analytic studies (e.g., case reports, case series)
- Expert opinion
Forming recommendations

Help clinicians and patients with decision-making

- Systematically summarise the evidence base
- Consider the quality of the evidence base
- Balance the benefits and harms
- Consider the realities of healthcare delivery

Create evidence-based, implementable recommendations
Consultation

• Open consultation
  (key questions and draft guideline)

• Peer review

• Editorial
Publication and implementation
Implementation and measuring outcomes

- Improve recognition and diagnosis
- Reduce variation in practice
- Reduction in pharmacological management

4AT
Risk reduction programme
Audit prescribing practices
What's the need?
Cognitive impairment in general hospitals
What is it?

DSM-5

• “delirium is an acute onset syndrome with
  • disturbance in attention, awareness, and cognition”
What NHS thinks…

2015-2016 F05 Delirium 1° diagnosis

25,686 of 7,884,096
All admissions >65
0.3%

12,900 of 1,753,742
All admissions >85
0.7%

Median LOS 9 (1)
Mean LOS 15 (5)
Mean age 82 (53)
General hospital in Ireland, potentially 358 ptns >18, excluding A+E, ITU, burns, haematology

Point prevalence - 19.5%

Prevalent and incident delirium

4.7% <50
21.3% 65-79
34.8% >80

Ryan et al, 2013. BMJ Open;3(1)
What the literature thinks...

**Accident and Emergency**

*Prevalent delirium*

8-10% >65

**Medical admissions**

*Prevalent delirium*

10-31% 2006 SR

16-35% since 2006 (9 studies)

26-29% DSM-IV (2 studies)

Pooled 388/1663 20.3%

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Jackson – Thesis 2016
Postoperative delirium

*Incident delirium*, very varied on setting

- Cataract: 1%
- ENT: 12%
- Non-cardiac: 13-50%
- Cardiac: 11-56%
- Orthopaedic: 12-51%

- Fatal VTE post hip#: <0.1%
- Wound infection post ortho: 1%

ICU

20-80% prevalent delirium

22-83% incident delirium

Point prevalence, 104 units, 11 countries, 497 pts, RASS higher -3 32.3% (median age 62)

Very varied

Salluh 2010 Critical Care, 14:R210
Devastating

1.95 HR of death, 2.41 OR new institutionalisation
8.7 OR developing dementia, worsens existing dementia

Distressing for patients and carers

Pneumonia and delirium

Nearly double risk of death

JAMA Psychiatry. 2017;74(3):244-251.
What’s in a name?

Bizarrely under-recognised
Only 1/3 recognised
Barrier to best care
Massive deficiency in hospital practice
Daily, devastating

So just call it out!
Lack of clarity makes it impossible to treat
Triggers specific actions (others don’t)
Impossible to offer excellent care unless we do

<table>
<thead>
<tr>
<th>Tool</th>
<th>Time taken (min)</th>
<th>Training Required</th>
<th>Staff</th>
<th>Settings</th>
<th>Sensitivity %</th>
<th>Specificity %</th>
<th>Delirium severity rating</th>
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<th>Suitable for detecting DSD</th>
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<td>77-91</td>
<td>56-71</td>
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</tbody>
</table>

Suitability for monitoring refers to the use of a tool daily or more for screening for incident delirium.

*DOS requires assessment over three shifts so time to detection is three days. It is geared towards assessment of hyperactive delirium.

Abbreviations: AMT – Abbreviated Mental Test; CAM – Confusion Assessment Method; DSD – delirium superimposed on dementia; DRS-98-R – Delirium Rating Scale; DOS – Delirium Observation Screening Scale; ICDSC – Intensive Care Delirium Screening Checklist; Nu-DESC – Nursing Delirium Scale; MMSE – Mini Mental State Examination; RADAR – Recognising acute delirium as part of your routine; RASS – Richmond Agitation-Sedation Scale; SQID – Single Question to Identify Delirium

SIGN 157 GUIDELINE
**Screening Tools**

**Confusion Assessment Method (CAM) (ICU)**

Widely used, but relies on understanding of inattention, and needs training

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**Single question in delirium (SQiD)**

“Do you think (name) has been more confused lately?”

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**4AT test (Non ICU)**

Tests alertness, attention, AMT4 and acute history
Sensitivity 89.7%, Specificity 84.7%, brief and simple
No understanding of inattention needed
Freely available

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Age Ageing. 2016 45(6):832-7
Diagnosis

Formal assessment and diagnosis must be made by a competent clinician whenever patients at high risk of delirium are identified.

Patient/carer should be informed of the diagnosis (Delirium leaflet).

Diagnosis of delirium should be clearly documented/recorded for transfers of care.
Early Detection & Risk Reduction strategies are the key to better outcomes in Delirium.
Non Pharmacological - Risk Reduction

Orientation & addressing Sensory impairment
Promoting sleep hygiene
early mobilisation
pain control
prevention, early identification and treatment of postoperative complications
maintaining optimal hydration and nutrition
regulation of bladder and bowel function
provision of supplementary oxygen, if appropriate

Cochrane Database 2016;3:CD005563
Age Ageing 2015; 44(2):196-204
Non – Pharmacological Management

Follow established pathways of good care -

First consider acute, life-threatening causes of delirium, including low oxygen, low blood pressure, low glucose, and drug intoxication.

Systematically identify and treat potential causes (drug, acute illness, etc), noting that multiple causes are common.

Optimise physiology, management of concurrent conditions, environment (reduce noise), medications, and natural sleep, to promote brain recovery.

Specifically detect, assess causes of, and treat agitation and/or distress, using non-pharmacological means only if possible.

Communicate the diagnosis to patients and carers, and provide ongoing engagement and support – provide a leaflet

Aim to prevent complications of delirium such as immobility, falls, pressure sores, dehydration, malnourishment, isolation.

Monitor for recovery and consider specialist referral if not recovering.

Consider follow-up.
**TIME Bundle**

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<th>Time (T)</th>
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<tr>
<td>Think exclude and treat possible triggers</td>
<td>Assessed/sent</td>
<td>Results seen</td>
<td>Abnormality found</td>
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<tr>
<td>NEWS (think Sepsis Six)</td>
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<tr>
<td>Blood glucose</td>
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<tr>
<td>Medication history (identify new medications/change of dose/medication recently stopped)</td>
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<tr>
<td>Pain review (Abbey Pain Scale)</td>
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<tr>
<td>Assess for urinary retention</td>
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<td></td>
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<tr>
<td>Assess for constipation</td>
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<tr>
<th>Information (I)</th>
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<tbody>
<tr>
<td>Investigate and intervene to correct underlying causes</td>
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<tr>
<td>Assess hydration and start fluid balance chart</td>
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<tr>
<td>Bloods (FBC, U&amp;E, Ca, LFTs, CRP, Mg, Glucose)</td>
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<tr>
<td>Look for symptoms/signs of infection (skin, chest, urine, CNS) and perform appropriate cultures/imaging depending on clinical assessment (see Sepsis Six)</td>
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<td>ECG (ACS)</td>
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<table>
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<tr>
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<tbody>
<tr>
<td>Management Plan</td>
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<tr>
<td>Initiate treatment of ALL underlying causes found above</td>
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<tr>
<td>Engage and Explore (complete within 2 hours or if family/carer not present within 24 hours)</td>
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<tr>
<td>Engage with patient, family and carers – explore if this is usual behaviour.</td>
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<tr>
<td>Ask: How would you like to be involved?</td>
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<tr>
<td>Explain diagnosis of delirium to patient, family and carers (use delirium leaflet)</td>
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<td></td>
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<tr>
<td>Document diagnosis of delirium</td>
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</table>
Pharmacological Management – Key aspects

Treat the underlying cause

Delirium Risk Reduction
  Medication optimization
  Pharmacological strategies

Pharmacological Treatment
Risk Reduction– Pharmacological

Medicines optimization –

By an experienced healthcare professional & should be part of every admission protocol

Any changes in medications

   commencement of new medications, consider delirium risk - Ex – benzos (OR3.0), Opiates (OR 2.5); (Morphine OR1.2); Oxycodone Low risk. Beers guidance AGS 2012

   changes in dosage of medication or abrupt withdrawal of medication could result in delirium.

Changes in how the body handles and is affected by medication - Ageing is a factor – Ex Anti-hypertensives

Clin Neurol Neurosurg 2008; 110(1):69-70
Risk Reduction – Pharmacological
Risk Reduction

Outcomes of interest

- Reduction in delirium incidence
- Duration
- Severity
- Hospital stay
Risk Reduction – Non ICU

**Ketamine** – Inconclusive, side-effects of hallucinations & nightmares

*Acta Anaesthesiol Scand. 2018 Oct;62(9):1182-1193*

**Melatonin** – 4 Studies, inconclusive

**Antipsychotics** – Not licensed

Insufficient evidence to use antipsychotic prophylaxis in patients at risk of developing delirium post surgery

If delirium did occur, prophylaxis did not reduce the severity, duration, length of stay or mortality

*Age Ageing 2018 Jan 1;47(1):48-55*
*Cochrane Database 2016;3:CD005563*
*JAGS. 2016;64(4):705-14*
Risk Reduction – Pharmacological Measures (ICU)

Dexmedetomidine

Unclear evidence (benefit vs confounding factors)
Not recommended
Cost-effectiveness studies warranted

SIGN 157;

Antipsychotics - no benefit

European Journal of Internal Medicine 2016;27:14-23
Critical Care 2015;30(4):799-807
Pharmacological treatment

Outcomes of interest

- Response rate
- Duration, LOS
- Severity
- Mortality
Pharmacological management

Antipsychotics

Studies are heterogenous & inconclusive

Large RCT in palliative care - Risperidone or haloperidol had worse outcomes than placebo

Haloperidol & other antipsychotics equally effective

No serious side effects with antipsychotics

Haloperidol associated with EPS in higher doses

Haloperidol ‘Contraindicated ‘ with QTc prolonging medications.
Pharmacological management

**ACEIs** – 7 small studies – No benefit with Rivastigmine or Donepezil

In ICU – Combination of Haloperidol & Rivastigmine increased mortality by 3 fold with poor outcomes

**Benzodiazepines** – One study, no benefit

**Dexmedetomidine** – Some benefit in agitated delirium in ICU with reduction in delirium (23.3 hours versus 40 hours with placebo) and reduced the length of ICU stay

*American Journal of Alzheimer's Disease and other Dementias* 2015;31(4):305-10

*JAMA - Journal of the American Medical Association* 2016;315(14):1460-8
Pharmacological treatment

- Evidence insufficient for specific recommendations
- More studies needed
- Expert opinion supports a role for medication

- Severe distress
- Risk to self & others
Psychotropic medication

If commenced, the medication should be

Reviewed on a daily basis & stopped as soon as the clinical situation allows.

Prolonged antipsychotic therapy - Early medication review & follow-up in the community should be agreed

Avoid combination of antipsychotics
Conclusion

Non-pharmacological treatment is the key

- Based on the established pathways of good care
- Involve families

Minimize risk factors

No role for routine antipsychotic in Risk Reduction or treatment of delirium

Avoid benzodiazepines in most cases of delirium

More high quality RCTs are required in this field

Follow up
Final words

**Major unmet medical need in healthcare**

Delirium is everyone’s responsibility

Needs a collaborative approach & a cultural shift

Medical emergency - expect challenges

[www.scottishdeliriumassociation.com](http://www.scottishdeliriumassociation.com)
Date for your diary

DECLARED 2020 Conference
Delirium: Past, Present & Future
www.declared2020.com
2 - 4th Sept 2020, Brisbane Convention & Exhibition Centre, Brisbane
Thank You

Antipsychotics

Doctors

Evidence based solutions to delirium prevention and recognition