

Guidance for:

Delirium in the critically ill patient

Endorsing organisations



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Introduction

Delirium is common in critically ill patients, with a reported prevalence as high as 74% in ventilated critically ill patients. It is frequently under-diagnosed.

Delirium has a high morbidity (between 10-57% having some form of cognitive impairment at hospital discharge) and is associated with increased mortality. It has become one of the most challenging conditions to prevent and manage within critical care, and is a huge burden for the patient, family and staff.

The purpose of this resource is to offer updated guidance that builds on the existing 'detection, prevention, and treatment of delirium' guidelines (2006). This guidance provides a combination of evidence based, as well as practical 'expert opinion' recommendations to support implementation of best practice within the ICU setting.

Overview

The most recent definition of delirium from the American Psychiatric Association's fifth edition of the Diagnostic and Statistical Manual of Mental Disorders requires the following to be present:

- A. Disturbance in attention (i.e., reduced ability to direct, focus, sustain, and shift attention) and awareness (reduced orientation to the environment).
- **B.** The disturbance develops over a short period of time (usually hours to a few days), represents an acute change from baseline attention and awareness, and tends to fluctuate in severity during the course of a day.
- **C.** An additional disturbance in cognition (e.g. memory deficit, disorientation, language, visuospatial ability, or perception).
- D. The disturbances in Criteria A and C are not better explained by a pre-existing, established or evolving neurocognitive disorder and do not occur in the context of a severely reduced level of arousal such as coma.
- E. There is evidence from the history, physical examination or laboratory findings that the disturbance is a direct physiological consequence of another medical condition, substance intoxication or withdrawal (i.e., due to a drug of abuse or to a medication), or exposure to a toxin, or is due to multiple aetiologies.

Sub-types of delirium

Delirium has three proposed subtypes:

- Hyperactive: heightened arousal with restlessness, agitation or aggressive behaviours.
- Hypoactive: withdrawn, not engaging in communication and lethargy.
- Mixed: combination of hyperactive and hypoactive.

The hyperactive form is more easily recognised due to agitated behaviours.

The hypoactive form is less easy to detect and may be interpreted as depression or be missed completely.

Risk factors

Multiple risk factors are associated with increased risk of delirium in critical care.

Pre-disposing risk factors (present on critical care admission)

- Increasing age (>65 years)
- Pre-existing cognitive impairment (e.g. dementia)
- Coma
- Pre-critical care emergency surgery or trauma
- Alcohol, nicotine or substance dependence
- Medication, particularly those with a high anticholinergic burden
- Malnutrition
- Frailty
- Sepsis
- Cardiac disease
- Hypertension

Precipitating Risk factors and triggers

Patient Factors	Acute Illness	latrogenic / environmental factors
Withdrawal from alcohol, nicotine, medication or illicit substances	Severity of illness	Medicines (specific) Benzodiazepine infusions Deep sedation
		Antimicrobials
Hearing / Vision impairment	Sepsis	Immobilisation
Neurological disease	Nosocomial infection	Disturbed sleep wake cycle
Pain	Metabolic disturbance	Malnutrition
	Medication withdrawal	Blood transfusions
		Stress and/or unmet patient needs (glasses, hearing aid, contact with family)

It is clear that there is overlap here but significant contributions come from iatrogenic and environmental factors which are, to a degree, modifiable.

Assessment and detection

Delirium is a clinical diagnosis of a syndrome. The PADIS guidelines (Appendix 1) recommend that all critically ill patients should be regularly assessed for delirium using a validated screening tool. The Confusion Assessment Method for the ICU (CAM-ICU) (Appendix 2) and Intensive Care Delirium Screening Checklist (ICDSC) (Appendix 3) assess for features of delirium such as fluctuating consciousness and inattention.

Early detection with CAM-ICU or ICDSC leads to prompt assessment and intervention. Without validated assessment up to 75% of delirium will be missed. It is noted that Delirium assessment tools such as CAM-ICU have not been validated in autistic populations and as such may present challenges to delirium assessment (Baruah 2024).

The consequence of missing delirium in patients can cause distress to both patients and families. Once a diagnosis of delirium has been made, this can facilitate discussions and support for patients and families about the experience and any long-term consequences it may have.

Standards

1 A validated Delirium screening tool e.g. CAM-ICU or the ICDSC must be used for all patients on the critical care unit on a daily basis.

Recommendations

- 1 Patients should be screened for delirium at each change of nursing shift or in the event of observed changes in behaviour.
- 2 Education on the use of delirium screening should be provided to all team members to improve consistency in the detection of delirium.

Prevention and management

Non-pharmacological prevention and management

Non-pharmacological prevention and management of delirium is imperative and should be first line before resorting to pharmacological therapies.

Standards

- 1 The ICU MDT must treat the underlying cause of delirium when known.
- 2 Tools, such as 'PINCHME' (Appendix 4) must be used by the MDT to aid the assessment and identify risk factors.
- 3 Nursing staff must have pain, agitation, delirium, immobilisation, and sleep (PADIS) education as a standard and this should be incorporated in the induction as mandatory. (Appendix 1).
- 4 A structured assessment of PADIS must occur daily (Appendix 1).
- 5 Patients identified to have delirium must have a clearly documented collaborative multi-disciplinary plan, which is adjusted depending on the progress of the patient.
- 6 Discharge summary and handover must include information about the patients' delirium and the successful management strategies.

Recommendations

- 1 Units should develop patient-centred protocols to guide healthcare professionals on strategies to prevent and manage delirium
- 2 Good communication with delirious patients by all staff: use open body language; gentle tone of voice; slow speech, short sentences; do not argue with delusions; do not encourage paranoia; empathise with their stress/fear.
- 3 Provide interpreters or allow open visiting: not understanding the language spoken around them exacerbates distressed behaviour in delirious patients.
- 4 Staff should facilitate transfer to a more familiar environment outside of ICU whenever possible.
- 5 Critical care units should consider utilising practitioner psychologists to help manage patients with delirium.
- 6 An education package should be provided by the multi-professional team to increase staff knowledge and understanding of delirium.
- Personalised approaches to delirium management should be taken, including orientation boards and engagement with family members to maximise humanisation. Other strategies include consideration of pet therapy, music therapy, lighting therapy, therapeutic massage and virtual reality, depending on the patient's wishes and availability. Additional ideas for purposeful activities can be found in Appendix 5.
- 8 Verbal and written information should be provided to family members.
- 9 Early intervention by Speech and Language Therapists should be considered to facilitate voice restoration and optimise communication.
- 10 Quality of patients' sleep should be optimised where possible. Strategies should include minimising light, noise and interventions overnight.
- 11 There are times where the use of physical restraints may be required to prevent self-harm or harm to others, and we recommend use of the ICS guideline.

Pharmacological prevention and management

Patients in Critical Care frequently require sedation and analgesia to tolerate mechanical ventilation and certain painful procedures. It has been recognised that targeting light levels of sedation and providing sedation breaks can be beneficial in the long-term recovery of patients. Use of the ABCDEF bundle (Appendix 6) protocol with light sedation has been shown to reduce the incidence of delirium.

Pharmacological treatment should **not** be used routinely to prevent or treat delirium but there are circumstances where, in order to maintain the safety of both the patient, families and critical care staff, pharmacological treatment is the only option.

Standards

- 1 The ICU MDT must use a validated tool to assess depth of sedation, for example the Richmond Agitation and Sedation Scale (RASS).
- 2 If benzodiazepines are required for prolonged period (>7days), a protocolised weaning schedule must be used to avoid withdrawal syndromes.
- 3 Staff must monitor pain using validated tools, and ensure analgesia is optimised.
- 4 When opioids are used, bowel care regimens must be included in care bundles.
- 5 Where possible, a patient's long-term medication (particularly medication used for psychological illness) must be continued or restarted as soon as it is safe to do so.
- 6 Antipsychotic agents must **not** be used routinely.
- 7 Patients transferred from critical care to the ward area on newly started anti-psychotic agent or alpha-2 agonists for agitation and motor symptoms in delirium must be stepped down with a weaning plan for these agents.

Recommendations

- 1 The use of a sedation guideline or protocol should be considered as this may improve practice.
- 2 Sedation should be regularly monitored, as a minimum 4 hourly.
- 3 A target sedation score should be prescribed for each patient.
- 4 Staff should aim to achieve a lighter sedation depth if the clinical condition allows as this is generally associated with better clinical outcomes.
- 5 A medication review by an experienced healthcare professional should be undertaken for every patient experiencing delirium.
- 6 Propofol and alpha-2 agonists should be used preferentially over benzodiazepines due to the reduced incidence of delirium.
- 7 Staff should avoid benzodiazepines where possible, although it is recognised that there are occasions where it can be useful.
- 8 The use of clonidine should be carefully considered as there is a paucity of evidence around its use.
- 9 Dexmedetomidine should be considered for patients with hyperactive delirium, but more evidence is required on whether it actually reduces delirium. Recent evidence has indicated increased mortality in patients ≤65.
- 10 Dexmedetomidine should be considered to treat delirium in mechanically ventilated patients where agitation is precluding weaning/extubation.
- 11 The use of haloperidol (probably first line) or atypical antipsychotic agents should be considered in the management of psychomotor symptoms of delirium.
- 12 Haloperidol or an atypical antipsychotic (e.g. olanzapine) should not be used to treat hypoactive delirium.

Conclusion

Delirium is a huge burden to patients, families and staff. It comes with significant morbidity and increased mortality. Management lies in reducing incidence (where possible), prompt diagnosis, involvement and explanation to families, and a co-ordinated MDT non-pharmacological approach. Pharmacological therapy should only be instituted where the safety of the patient and staff are at risk, or where withdrawal states are thought to be contributory.

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Appendix 1. PADIS guideline structure

Pain

Please screen current pain score: 0-2 no pain / 3-7 mild / 8-13 moderate / 14+ Severe

Consider chronic / acute / acute on chronic medication needs/delivered.

Agitation/sedation

What is the current RASS situation?

What sedation agent is currently being used?

Is there a weaning plan in plan?

What has the patient's reaction been to the SBT?

Delirium

What is the CAM-ICU score? (Appendix 2)

What is delirium bundle delivery? (Appendix 5)

Immobility

What is the current rehabilitation strategy?

Consider the patient engaging in: sitting out/ transferring / mobilisation/ personal activities of daily living care tasks/ domestic activities of daily living tasks.

Sleep

What is the handover from night nurse team? Did they sleep over night?

Is there a bundle of care in place?

Is the patient receiving medication to support sleep? Is this optimised/been reviewed recently?

Are we promoting a day/night structure?

Are we keeping a night diary to explore trends of wake/sleep cycle?

Have you offered ear plugs and eye masks?

Appendix 2. CAM-ICU flowsheet

CAM-ICU Flowsheet Confusion Assessment Method for the ICU Acute change or fluctuating course of mental status Is there an acute change from mental status baseline? Has the patient's mental status fluctuated during the past 24 hours? NO YES Inattention "Squeeze my hand when I say the letter 'A'." Read one of the following sequences of letters: **■ SAVEAHAART or CASABLANCA or ABADBADAAY** ERRORS: No squeeze with 'A' or squeeze on letter other than 'A' If unable to complete letters ——use pictures 0-2 Errors >2 Errors Altered level of consciousness Current RASS level RASS = 0RASS other than 0 Disorganized thinking **■** 1. Will a stone float on water? 2. Are there fish in the sea? 3. Does one pound weigh more than two? 4. Can you use a hammer to pound a nail? 5. "Hold up this many fingers" (Hold up 2 fingers) "Now do the same thing with the other hand" (Do not demonstrate) *If patient unable to move both arms, instead use "Add one more finger" 0-1 Error > 1 Error **Not Delirious**

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Must have Feature 1 and Feature 2 and either Feature 3 or Feature 4

Appendix 3. The Intensive Care Delirium Screening Checklist

Patient Evaluation	Descriptions	Score
Altered level of	A: No response	None
consciousness	B: Response to intense and persistent stimulation (loud voice of pain)	None
	C: respond to mild or moderate stimuli	1
	D: Normal wakefulness	0
	E: Exaggerated response to normal stimulation	1
Inattention	Difficulty following a conversation or instructions. Easily distracted by external stimuli. Difficulty in shifting focuses	Any of these stories
Disorientation	Any obvious mistake in time, place or person	1
Hallucination - delusion psychosis	The unequivocal manifestation of hallucination or behaviour probably due to hallucination or delusion. Gross impairment in reality testing.	Any of these
Psyhchomotor agitation or retardation	Hyperactivity requiring the use of additional sedative drugs or restraints in order to control potential danger to oneself or other. Hypoactivity or clinically noticeable psychomotor slowing.	Any of these 1
Inappropriate speech or mood	Inappropriate, disorganized or incoherent speech. Inappropriate display of emotion relate to events or situations.	Any of these 1
Sleep wake circle disturbance	Sleeping less than 4h or waking frequently at night. (do not consider wakefulness initiated by medical staff or loud environment). Sleeping during most of the day.	Any of these 1
Symptom fluctuation	Fluctuation of the manifestation of any item or symptom over 24h.	1

Appendix 4. Identifying cause of delirium – PINCHME mnemonic tool



- Pain
- Palliative
- Post surgical



- Infection
- Isolation (stimulation)



- Nutrition
- Night cycle (sleep pattern)
- Noise (too loud, quiet or disturbing)



- Constipation
- Continence (new changes)



- Hydration status
- Hypermetabolic or hyperendocrine
- Hypometabolic or hypoendocrine
- Hallucinations



- Medicines (formal review, polypharmacy and concordance)
- Mobility (changes and falls)



- Environment (overstimulation or understimulation)
- Emotional (stressors)

Appendix 5. Intervention examples

Medical

Sedation break / aim RASS - 2 or higher

Monitor bowels: consider bowel care protocol.

Medication review: Avoid benzodiazepines if possible

Consider night sedation

Stop medication no longer required.

Treat withdrawal of chronic substance use

Restart regular antipsychotic drugs early

Pharmacist review

Give haloperidol ONLY if patient is a danger themselves or others

Consider pain!

Physical

Early mobilisation

PROM/AAROM/AROM

Start ICU diary

Orientation poster / Getting to Know Me information

Verbal orientation

Clock with date and time in 24 hours format

Glasses

Hearing aids

Communication aids

Promote independence within task/ daily structure.

Facilitate sleep by minimising noise and nursing interventions overnight. Cluster care tasks such as mouth care, eye care, repositioning, pulse checks, and NG aspiration. Offer ear plugs and eye masks.

Appendix 6. ABCDEF bundle



Assess, prevent and manage pain



Both spontaneous awakening trials (SATs) and spontaneous breathing trials (SBTs)



Choice of sedation



Delirium: Assess, prevent and manage



Early mobilisation and Exercise



Family engagement and empowerment



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