DELIRIUM
Supporting information

This guideline has been prepared with reference to the following:

NICE. Delirium: prevention, diagnosis and management in hospital and long-term care. 2023. London. NICE

https://www.nice.org.uk/guidance/cg103

A score of seven or less on the Hodkinson's Abbreviated Mental Test is consistent with impaired brain function?
Many tests for cognitive impairment are available for use, but few have been validated in the populations for which they are intended (Cullen 2007). The Abbreviated Mental Test (Hodkinson, 1972) has the advantage of being quick to administer (5 mins) and has been independently validated in several studies (Jackson 2013) A systematic review and meta- analysis (Jackson 2013) found that with a cut-off of <7, pooled analysis of the AMTS showed a sensitivity of 81%, a specificity of 84% and an area under the curve (AUC) of 0.88 which is considered to be good.

Cullen B, O'Neill B, Evans JJ, et al. A review of screening tests for cognitive impairment. J Neurol Neurosurg Psychiatry 2007;78:790-9
http://jnnp.bmj.com/content/78/8/790.long

Hodkinson HM. Evaluation of a mental test score for assessment of mental impairment in the elderly. Age Ageing 1972;1:233-8
http://ageing.oxfordjournals.org/content/1/4/233.long

Jackson TA, Navqi SH and Sheehan B. Screening for dementia in general hospital inpatients: a systematic review and meta-analysis of available instruments. Age Ageing 2013; 42: 689-95.
http://ageing.oxfordjournals.org/cgi/pmidlookup?view=long&pmid=24100618

Evidence Level: I

A quiet environment will reduce the duration of delirium?
A retrospectively study looked at 8 basic nursing strategies (one of which was to minimise noise levels) applied to 46 consecutive referrals to a consultation psychiatry service who met ICD-10 criteria for delirium (Meagher, 1996). The study found that the implementation of environmental strategies was beneficial (although no outcome measures were used), but tended to happen reactively (most often in responses to behavioural challenges) rather than proactively. Although reasonable levels of quiet are beneficial, under-stimulation from an excessively quiet environment can also exacerbate delirium (American Psychiatric Association, 1999).

American Psychiatric Association. Practice guideline for the treatment of patients with delirium. Am J Psychiatry 1999;156(Suppl):1-20
http://psychiatryonline.org/pb/assets/raw/sitewide/practice_guidelines/guidelines/delirium.pdf

Meagher DJ, O'Hanlon D, O'Mahoney E, et al. The use of environmental strategies and psychotropic medication in the management of delirium. Br J Psychiatry 1996;168:512-5

Evidence Level: IV

Treating infection will reduce the duration of delirium?
The treatment of underlying infection is imperative in cases of delirium, as this may often be the main precipitating factor (American Psychiatric Association, 1999; Flacker, 1998). In a case-controlled prospective study (George, 1997), 34% of 171 patients with delirium had infection as the cause, followed by 25% with mixed aetiology.
A 2024 systematic review investigated whether antibiotics impact delirium outcomes in older adults with pyuria or bacteriuria in the absence of systemic signs of infection or genitourinary symptoms (Stall, 2024). The reviewers identified four studies (including one RCT, two prospective observational cohort studies, and one retrospective chart review). None of the four studies demonstrated a significant effect of antibiotics on delirium outcomes, with two studies reported a worsening of outcomes among adults who received antibiotics.

American Psychiatric Association. Practice guideline for the treatment of patients with delirium. Am J Psychiatry 1999;156:Suppl:1-20
http://psychiatryonline.org/pb/assets/raw/sitewide/practice_guidelines/guidelines/delirium.pdf

Flacker JM, Marcantonio ER. Delirium in the elderly. Optimal management. Drugs & Aging 1998;13:119-30

George J, Bleasdale S, Singleton SJ. Causes and prognosis of delirium in elderly patients admitted to a district general hospital. Age & Ageing 1997;26:423-7
http://ageing.oxfordjournals.org/content/26/6/423.long

Stall NM, Kandel C, Reppas-Rindlisbacher C et al. Antibiotics for delirium in older adults with pyuria or bacteriuria: A systematic review. J Am Geriatr Soc. 2024;72:2566-78

Evidence Level: IV

Stopping non-essential medication will reduce the duration of delirium?

Stopping non-essential medication is often of help in delirium, as almost any drug may be responsible for precipitating an episode (Rockwood, 2000). Medications contribute to up to 40% of cases of delirium (Cole, 2004). Drugs with an anticholinergic action are the most likely to have this effect (Karlsson, 1999). The risks increase with the number of drugs being administered concurrently (Stewart, 1992), although the evidence for this is mostly from case studies (Gordon, 1988). A retrospective analysis of 35 patients with drug-induced delirium (Larson, 1987) found that 8 of these were taking 2 or 3 drugs concurrently. In all cases, improvement, measured by an objective rating scale, was observed when the drugs were withdrawn. In the same study, the relative odds for adverse effects rose to 9.3 from a baseline of 1.0 (for one drug or none) when 4 or 5 drugs were administered at once.

A systematic review (Gaudreau, 2005) draws attention to the sparse and sometimes contradictory data linking psychoactive drugs with delirium.

Cole MG. Delirium in elderly patients. Am J Geriatr Psychiatry 2004;12:7-21

Gaudreau JD, Gagnon P, Roy MA, et al. Association between psychoactive medications and delirium in hospitalized patients: a critical review. Psychosomatics 2005;46:302-16

Gordon M, Preiksaitis HG. Drugs and the aging brain. Geriatrics 1988;43:69-78

Karlsson I. Drugs that induce delirium. Dement Geriatr Cogn Disord 1999;10:412-5

Rockwood K. Disordered levels of consciousness and acute confusional states. In: Evans JG, Williams TF, Beattie BL, et al (eds). Oxford Textbook of geriatric medicine, 2nd ed. Oxford: OUP, 2000. p934

Stewart RB, Hale WE. Acute confusional states in older adults and the role of polypharmacy. Annu Rev Health 1992;13:415-30

Evidence Level: IV

Correcting metabolic disturbances will reduce the duration of delirium?

A variety of metabolic conditions may predispose towards delirium (Rockwood, 2000). A retrospective analysis of 100 delirious patients seen by a psychiatric consultation service (Dickson, 1991) found that hypoalbuminaemia was present in 66%. A study of 53 delirious patients with an electrolyte imbalance in the serum (Koizumi, 1988) found that the duration of delirium was significantly shortened by correction of the imbalance. The mean duration of delirium in the 18 corrected cases was 9.4 +/- 1.9 days. In the 35 uncorrected cases, 13 patients had delirium for a mean of 25.0 +/- 6.6 days.

Dickson LR. Hypoalbuminemia in delirium. Psychosomatics 1991;32:317-23

Koizumi J, Shiraishi H, Ofuku K, et al. Duration of delirium shortened by the correction of electrolyte imbalance. Jap J Psychiatry Neurol 1988;42:81-8

Rockwood K. Disordered levels of consciousness and acute confusional states. In: Evans JG, Williams TF, Beattie BL, et al (eds). Oxford Textbook of geriatric medicine, 2nd ed. Oxford: OUP, 2000. p934

Evidence Level: IV

Haloperidol or lorazepam should be used only if absolutely necessary, and then for no longer than 1 week in the case of haloperidol?

A 2016 systematic review of the evidence (12 RCTs) does not demonstrate an apparent superior efficacy or safety of haloperidol for either the prevention or treatment of hospital-associated delirium in adult patients as compared with placebo or other drugs (Schrijver et al, 2016). The same review however did suggest that the evidence did indicate that haloperidol prophylaxis may be effective in reducing postoperative delirium in older patients admitted to an ICU after surgery.

A 2025 systematic review concluded that Haloperidol showed a significant trend in reducing the length of ICU stay. However, there was no statistical difference between the two groups in terms of delirium reduction (Zhao, 2025). A total of 2863 patients were included in the analyses. All the included studies were randomized controlled trials. There was no difference in short-term (28–30 days) mortality between the two groups [OR = 0.89, 95% CI 0.60 to 1.32] and long-term (90 days to 1 year) mortality [OR = 0.87, 95% CI 0.70 to 1.07]. Furthermore, the haloperidol group demonstrated an advantage in reducing the length of ICU stay [MD = -1.13, 95% CI −1.93 to −0.32] compared to the placebo group, with no statistically significant difference in length of hospital stay [MD = −0.24, 95% CI -1.71 to 1.24].

Atypical antipsychotics such as risperidone, olanzapine and quetiapine are also effective, without producing the extra-pyramidal side effects sometimes seen with haloperidol (Rea, 2007; Tune, 2002). In patients with dementia however, risperidone and olanzapine have been shown to cause a three-fold increase in the risk of stroke and should therefore not be used in these patients (CSM, 2004).

Rea RS, Battistone S, Fong JJ, et al. Atypical antipsychotics versus haloperidol for treatment of delirium in acutely ill patients. Pharmacotherapy 2007;27:588-94

Seitz DP, Gill SS, van Zyl LT. Antipsychotics in the treatment of delirium: a systematic review. J Clin Psychiatry 2007;68:11-21

Schrijver EJ, de Graaf K, de Vries OJ et al. Efficacy and safety of haloperidol for in-hospital delirium prevention and treatment: A systematic review of current evidence. Eur J Intern Med. 2016;27:14-23

Tune L. The role of antipsychotics in treating delirium. Curr Psychiatry Rep 2002;4:209-12

Zhao Y, Wang Q, Sun B et al. Haloperidol for the treatment of delirium in ICU patients: a systematic review and meta-analysis. Eur J Med Res. 2025;30:147
https://eurjmedres.biomedcentral.com/articles/10.1186/s40001-025-02409-6

Evidence Level: I

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