

## DELIRIUM (ACUTE CONFUSIONAL STATE) IN OLDER PEOPLE

### Supporting information

This guideline has been prepared with reference to the following:

NICE. Delirium: diagnosis, prevention and management (Clinical Guideline). 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://innp.bmi.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](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. Virtually any illness can give rise to delirium in the elderly, with common illnesses providing the most common causes (Rockwood, 2000).

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](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

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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>

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*, 2<sup>nd</sup> ed. Oxford: OUP, 2000. p934

#### **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*, 2<sup>nd</sup> 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*, 2<sup>nd</sup> 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

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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. 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

**Evidence Level: I**

**Last amended March 2023  
Last reviewed October 2023**