Isle of Wight Healthcare NHS
NHS Trust

CLINICAL GUIDELINE FOR THE CARE AND TREATMENT OF OLDER PEOPLE WITH DELIRIUM IN A GENERAL HOSPITAL SETTING

SECOND EDITION

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EXECUTIVE SUMMARY

Delirium (acute confusional state) is a common condition in the elderly affecting up to 30% of all elderly medical patients. Patients who develop delirium have high mortality, institutionalisation and complication rates, and have longer lengths of stay in hospital than non-delirious patients. This summary guidance has been produced to assist clinicians in routinely screening patients at risk of developing delirium and with developing appropriate plans of care and treatment to alleviate this condition.

Note: Throughout this document the term clinician refers primarily to medical and nursing staff but may also, where appropriate, include any of the professions supplementary to medicine. The terms older or elderly refer to persons of 65 years or older.

Course of Action Required

Screening: Cognitive testing should be carried out on all elderly patients admitted to hospital. A history from a relative or carer of the onset and course of the confusion is essential to help distinguish between delirium and dementia. A good clinical history supplemented by a reliable screening instrument such as the Confusion Assessment Method (CAM) is currently the most effective way of detecting delirium. Clinical observation utilising the Delirium Index (DI) in conjunction with the Mini-Mental State Examination (MMSE) is considered to be the most effective way of monitoring the patient's progress.

Diagnosis*:* Delirium is characterised by a disturbance of consciousness and a change in cognition that develop over a short period of time. The disorder has a tendency to fluctuate during the course of the day, and there is evidence form the history, examination or investigations that the delirium is a direct consequence of a general medical condition, drug withdrawal or intoxication (DSM IV). Delirium almost always has more than one causal factor. The main differential diagnoses of delirium include depression and dementia. In order to differentiate between delirium and dementia, the most helpful factor is an account of the patients pre-admission state from a relative or carer.

Examination: A full physical examination should be carried out including neurological examination, level of consciousness, nutritional status, evidence of pyrexia, evidence of alcohol/substance use/abuse or withdrawal, cognitive function using a standardised screening tool.

Investigations*:* The following investigations are almost always indicated in patients with delirium in order to identify the underlying cause*: - FBC, Calcium, U&Es, LFT, Glucose, TFT, Chest X-ray, ECG, Blood cultures, Urinalysis.* Other investigations may be indicated according to the findings from the history and examination e.g. *CT head, B12 and folate, Arterial blood gases, Specific cultures e.g. urine.*

Treatment of underlying cause: The most important approach to the management of delirium is the identification and treatment of the underlying cause. Any incriminated drugs should be withdrawn wherever possible, biochemical abnormalities should be corrected and infections promptly treated.

Management of confusion: The patient should be nursed in a good sensory environment using a reality orientation approach, and with involvement of the multi-disciplinary team. Please refer to full guidance document for further details.

Referral to the Older Person's Mental Health Services: Patients who fail to improve despite treatment of the suspected underlying cause(s) of the delirium may benefit from referral to an Old Age Psychiatrist.

Discharge*:* Discharge should be planned in conjunction with all disciplines involved in caring for the patient, both in hospital and in the community. Informal carers/relatives should always be involved in discharge planning. Practical arrangements should be in place prior to discharge for activities such as washing, dressing, medication etc. Prior to discharge it is useful to assess the patients cognitive and functional status. Discharge summaries must be promptly completed.

CLINICAL GUIDELINE FOR THE CARE AND TREATMENT OF OLDER PEOPLE WITH DELIRIUM IN A GENERAL HOSPITAL SETTING

Related policies/documents (to be read in association with this guideline)

- Clinical Guideline for the Care and Treatment of Older People with Dementia in a General Hospital Setting [2nd Ed] (Peck, S. 2005 [a]).
- Clinical Guideline for the Care and Treatment of Older People with Depression in a General Hospital Setting [2nd Ed] (Peck, S. 2005 [b]).

Purpose of the guidance

This guidance has been produced to assist clinicians in routinely screening patients at risk of developing delirium and to develop appropriate plans of care and treatment to alleviate the condition as well as reduce the associated risks to patients and staff.

Objectives: -

- All patients at risk of developing delirium will be routinely screened on admission to hospital and periodically reviewed thereafter.
- Patients presenting with delirium will receive the appropriate medical investigations in order to identify the underlying causative factors and instigate appropriate treatment.
- All patients will have evidence-based multidisciplinary care plans that reflect their individual needs and take into account the needs of relatives/informal carers.
- Patients with delirium will be regularly reviewed to assess the progress of this condition in order to make adjustments to their care and treatment plans.
- Discharge plans will clearly identify the patient's future risk of delirium and incorporate preventative measures.

Scope of the guidance

This document provides detailed, evidence-based clinical guidance for the care and management of patients who present on admission with delirium or develop this condition during their hospital stay. The guidance is primarily for older patients who are particularly prone to developing this condition, although the guidance may also be relevant to younger patients who are confused.

Background

Delirium (acute confusional state) is a common condition in the elderly affecting up to 30% of all elderly medical patients. Patients who develop delirium have high mortality, institutionalisation and complication rates, and have longer lengths of stay than non-delirious patients. Delirium is often not recognised by clinicians and is often poorly managed. (Young & George 1999, p1)

The following advice has been largely adapted and developed from the British Geriatric Society guidance on delirium and utilises their grading criteria (Young & George 1999). Local expert opinion (grade IV) is based on a consensus view of clinicians working in the Older Person's Mental Health Service.

Grading of evidence

Grade I	Based on Randomised Controlled Trial
Grade IIa	Based on well-designed non-randomised controlled trial
Grade IIb	Based on well-designed cohort or case-control analytic studies
Grade IIc	Comparisons between times/places, with or without interventions. Dramatic results in uncontrolled trials
Grade III	Expert opinion, clinical experience, descriptive studies & expert committees.
Grade IV	Local expert opinion

COURSE OF ACTION REQUIRED

Screening

- **Cognitive testing should be carried out on all elderly patients admitted to hospital (grade llc)** Use of cognitive screening tools may increase recognition of delirium on admission.
- **Serial measurements may help detect the new development of delirium or its resolution (grade llc).** However by themselves these tools cannot distinguish between delirium and other causes of cognitive impairment.
- **A history from a relative or carer of the onset and course of the confusion is essential to help distinguish between delirium and dementia (grade III).**
- **A good clinical history supplemented by reliable screening instrument such as the Confusion Assessment Method (CAM) is currently the most effective way of detecting delirium. Clinical observation utilizing the Delirium Index (DI) is the most effective way of monitoring the patient's progress (grade IV).** A brief overview of the CAM and DI is given below.

The Confusion Assessment Method (Inouye et al 1990) includes two parts. Part one is an assessment instrument that screens for overall cognitive impairment. Part two includes only those four features that were found to have the greatest ability to distinguish delirium or reversible confusion from other types of cognitive impairment. Individual clinical features of the CAM include acute onset and fluctuating course, inattention and disorganized thinking, altered level of consciousness, disorientation, memory impairment, perceptual disturbance, abnormal psychomotor activity and altered sleeping cycle.

Concurrent validation with psychiatric diagnosis revealed sensitivity of 94-100% and specificity of 90-95%. The CAM significantly correlated with the Mini-Mental State Examination (Folstein et al 1975) and closely correlates with DSM-1V criteria for delirium. The tool can be administered in less than 5 minutes. There is a false positive rate of 10%. The tool identifies the presence or absence of delirium but does not assess the severity of the condition, making it less useful to detect clinical improvement or deterioration. However the Delirium Index (McCusker et al 1998), which has been developed from the CAM to rate the severity of delirium and allows measurements of change over time to be undertaken. This tool can be administered in 5-10 minutes through observation of the patient and has been designed to be used in conjunction with the MMSE.

Diagnosis

Delirium is characterised by a disturbance of consciousness and a change in cognition that develop over a short period of time. The disorder has a tendency to fluctuate during the course of the day, and there is evidence from the history, examination or investigations that the delirium is a direct consequence of a general medical condition, drug withdrawal or intoxication (DSM IV – American Psychiatric Association, 1994).

In order to make a diagnosis of delirium, a patient must show each of the features 1-4 listed below:

1. **Disturbance of consciousness (i.e. reduced clarity of awareness of the environment) with reduced ability to focus, sustain or shift attention.**

2. **A change in cognition (such as memory deficit, disorientation, language disturbance) or the development of a perceptual disturbance that is not better accounted for by a pre-existing or evolving dementia.**

3. **The disturbance develops over a short period of time (usually hours to days) and tends to fluctuate during the course of the day.**

4. **There is evidence from the history, physical examination, or laboratory findings that the disturbance is caused by the direct physiological consequences of a general medical condition, substance intoxication or substance withdrawal.**

Diagnostic notes:

Delirium almost always has more than one causal factor. A diagnosis of delirium can also be made when there is insufficient evidence to support criterion 4, if the clinical presentation is consistent with delirium and the clinical features cannot be attributed to any other diagnosis, for example delirium due to sensory deprivation. Delirium is on a spectrum; the DSM IV criteria define relatively severe delirium. Emotional disturbances such as depression, anxiety or fear, irritability, euphoria, apathy or wondering perplexity, disturbances of perception (illusions or hallucinations, often visual) and transient delusions are typical but are not specific indications for the diagnosis.

Patients at risk

Delirium is more common in patients who are:

- Older
- Severely ill
- Suffering from dementia
- Physically frail
- Admitted with an infection or dehydration
- Visually impaired
- On multiple medications
- Heavy users of alcohol

Early attention to possible precipitants of delirium and adopting the approaches detailed under "management of confusion" in those patients at increased risk of delirium may prevent the development of delirium and improve the outcome in those who go on to develop it (Grade I).

Identification of the underlying cause(s)

Common causes of delirium include any physical illness, medication (particularly those with anticholinergic side effects) or withdrawal from medication (especially benzodiazepines) [see appendix for drug risks]

History

In addition to standard questions in the history, the following information should be specifically sought (grade III):

- Full drug history including non-prescribed drugs
- Alcohol history
- Benzodiazepine use (it is important to avoid abrupt or rapid withdrawal)
- Previous intellectual function (eg ability to manage household affairs, pay bills etc.)
- Functional status (eg activities of daily living)
- Onset and course of confusion
- Previous episodes of acute or chronic confusion
- Symptoms suggestive of underlying cause (eg infection)
- Sensory deficits
- Aids used (eg hearing aid, glasses etc.)
- Pre-admission social circumstances and care package
- Comorbid illness

Many patients with confusional states are unable to provide an accurate history. Information should therefore always be sought from someone who knows the patient well (e.g., a carer or relative), for the purposes of corroboration and to contribute towards a more comprehensive assessment (grade III).

Examination

A full physical examination should be carried out including in particular the following areas:

- Neurological examination (including assessment of speech)
- Level of consciousness
- Nutritional status
- Evidence of pyrexia
- Evidence of alcohol/substance use/abuse or withdrawal
- Cognitive function using a standardised screening tool e.g. CAM (grade IIc)
- Attention (e.g. serial 7`s, months of year backwards)

Investigations

The following investigations are almost always indicated in patients with delirium in order to identify the underlying cause(s) (grade III):

- Full blood count
- Calcium
- Urea and electrolytes
- Liver function tests
- Glucose
- Thyroid function tests

- Chest X-ray
- ECG
- Blood cultures
- Urinalysis

Other investigations may be indicated according to the findings from the history and examination. These include:

- CT head (see below)*
- B12 and folate
- Arterial blood gases
- Specific cultures e.g. urine, sputum

***CT Scan (grade llb)**

Although many patients with delirium have an underlying dementia or structural brain lesion (eg previous stroke), CT has been shown to be unhelpful on a routine basis in identifying a cause for delirium and **should be reserved for those patients in whom an intracranial lesion is suspected**. This might include patients with the following features (grade III):

- Focal neurological signs
- Confusion developing after head injury
- Confusion developing after a fall
- Evidence of raised intracranial pressure

Treatment of underlying cause(s)

The most important approach to the management of delirium is the identification and treatment of the underlying cause(s) (grade III).

- Incriminated drugs should be withdrawn wherever possible (grade III).
- Biochemical abnormalities should be corrected promptly (grade IIb)
- Infection is one of the most frequent precipitants of delirium. If there is a high likelihood of infection (eg abnormal urinalysis, abnormal chest examination etc.), appropriate cultures should be taken and antibiotics commenced promptly, selecting a drug to which the likely infective organism will be sensitive (grade III).

Management of confusion

In addition to treating the underlying cause, management should also be directed at the relief of the symptoms of confusion/delirium. The patient should be nursed in a good sensory environment and with a reality orientation approach, and with involvement of the multi-disciplinary team (grade I).

This includes:

- Good lighting levels
- Regular and repeated visible and verbal clues as to orientation (eg clocks, calendars)
- Reassurance and explanation to the patient and carer of any procedures or treatment, using short simple sentences
- Sensory aids should be available and working where necessary
- Avoidance of inter and intra-ward transfers (grade III)
- Continuity of care from caring staff

- Avoidance of physical restraints (grade IIc) (see also under Falls)
- Maintenance or restoration of normal sleep patterns
- Approach and handle gently
- Eliminate unexpected and irritating noise (e.g. pump alarms)
- Ensuring fluid balance and meeting nutritional needs
- Attend to bowel and bladder elimination
- Encouraging visits from familiar friends and relatives may help to calm an agitated patient. Communication with the relative regarding the nature of the confusion is essential. Where relatives are asked to assist in the care of a disturbed or agitated patient, an explanation of why their involvement is necessary and how they can help should be given.

Depending on the layout and nature of the ward, these measures may be facilitated by nursing the patient in a single room. For example, in a busy Nightingale ward, a patient with delirium may be better managed in a side room, whereas in a ward with small bays the presence of other patients may have a reassuring influence (grade III).

Wandering and Agitation

Patients who wander require close observation within a safe and reasonably closed environment. It is often preferable to try distracting the agitated wandering patient rather than using restraints or sedation. Relatives could be encouraged to assist in this kind of management. Attempts should be made to identify and remedy possible cause of agitation - e.g. pain, thirst, need for toilet.

Confused communication

Patients with delirium often exhibit confused speech; it is usually preferable not to agree with confused communications but to adopt one of the following strategies, depending on the circumstance (grade III):

Tactfully disagree (if the topic is not sensitive)
Change the subject
Acknowledge the feelings expressed - ignore the content

Sedation

All sedatives may cause delirium, especially those with anticholinergic side effects (such as chlorpromazine). The use of sedatives and antipsychotics should therefore be kept to a minimum (grade III). Many elderly patients with delirium have hypoactive delirium (quiet delirium) and do not require sedation. Early identification of delirium and prompt treatment of the underlying cause may reduce the severity and duration of delirium.

Drug sedation may be necessary in the following circumstances (grade III)

- In order to carry out essential investigations or treatment
- To prevent patients endangering themselves or others
- To relieve distress in a highly agitated or hallucinating patient

It is preferable to use one drug only, starting at the lowest possible dose and increasing in increments if necessary after an interval of 30 minutes (grade III). The preferred drug is Haloperidol – Up to a maximum of 2mgs daily orally as tablets or liquid or by intramuscular injection to a maximum of 2mgs every 6 hours (grade IV), (NB the oral and IM doses of Haloperidol are not equivalent) (grade IV).

The Committee on Safety of Medicines (CSM) issued advice in March 2004 that there is clear evidence

of an increased risk of stroke in elderly patients *with dementia* who are treated with risperidone or olanzapine. Patients with dementia should therefore not be started on these drugs. Careful consideration should also be given to prescribing these drugs for patients with a history of cerebrovascular disease. The CSM has given the following prescribing advice: -

- Rispiridone and olanzapine should not be used for the treatment of behavioural symptoms of dementia.
- Use of rispiridone for the management of acute psychotic conditions in elderly patients who also have dementia should be limited to short-term and should be under specialist advice (olanzipine is not licensed for the management of acute psychosis).
- Prescribers should consider carefully the risk of cerebrovascular events before treating any patient with a previous history of stroke or transient ischaemic attack. Consideration should also be given to other risk factors for cerebrovascular disease including hypertension, diabetes, current smoking and atrial fibrillation.

Further information is available on

Treatment guidelines are available at the following websites:
http://www.rcpsych.ac.uk/college/faculty/oap/professional/index.htm
http://www.rcgp.org.uk/corporate/position/drugs.asp
http://www.bgs.org.uk/

Information for patients and carers is available at the following website:
http://www.alzheimers.org.uk

If second line treatment is needed for severe distress or agitation, use a short acting Benzodiazepine rather than diazepam [e.g. Lorazepam 0.5mgs up to TDS] (grade IV). If sedatives are prescribed, the prescription should be reviewed regularly and discontinued as soon as possible. Do not prescribe as a "TTO" unless there is a very good indication. (grade IV).

For delirium due to alcohol withdrawal (delirium tremens) a Benzodiazepine (e.g. Diazepam or Chlordiazepoxide) is preferred in a reducing course. Detailed guidelines for this condition are beyond the scope of these guidelines.

Patients who are refusing treatment

Treating patients with delirium who are refusing treatment and who do not have the mental capacity to consent to treatment can be carried out under common law if the patient would be at severe risk if not treated. If a patient requires specific inpatient treatment or assessment for *mental health* need, detention under the Mental Health Act is also possible, but it is advisable to seek guidance from the psychiatric team before considering this.

Referral to the Older Person's Mental Health Services

Patients who fail to improve despite adequate treatment and resolution of the suspected cause of the delirium may benefit from referral to an Old Age Psychiatrist for further assessment (grade III).

Specific indications for referral to the older person's mental health services (grade IV):

- ***Severe*** agitation/behavioural problems/psychotic symptoms
- Help needed to differentiate delirium from dementia
- Advice regarding more specialist neuroimaging e.g. SPECT scanning.

Discharge

As with all elderly patients discharge should be planned in conjunction with all disciplines involved in caring for the patient, both in hospital and in the community. Informal carers/relatives should always be involved in discharge planning. Practical arrangements should be in place prior to discharge for activities such as washing, dressing, medication etc.

- Communication with all parties involved in the patients care is vital.
- Prior to discharge it is useful to assess the patients cognitive and functional status (eg using standardised tools such as the Delirium Index and Mini Mental State Examination).
- Discharge summaries must be completed promptly.

References:

American Psychiatric Association (1994) *Diagnostic and Statistical Manual of Mental Disorders-4th Edition*: American Psychiatric Association. Washington DC.
Folstein, MF., Folstein, SE., McHugh, PR., (1975) "Mini-Mental State": a practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research* **12,** 189-98
Inouye, SK., van Dyck, CH., Alessi, CA., Balkin, S., Siegal, AP., Horwitz, RI. (1990) Clarifying confusion: the Confusion Assessment Method. *Annals of Internal Medicine* **113,** 941-8
McCusker, J., Cole, M., Bellavance, F., Primeau, F., (1998) Reliability and validity of a new measure of severity of delirium. *International Psychogeriatrics* **10,** 421-33
Peck, S. (2005) [a] [2nd Ed]*Clinical Guideline for the Care and Treatment of Older People with Dementia in a General Hospital Setting.* Isle of Wight Healthcare NHS Trust.
Peck, S. (2005) [b] *Clinical Guideline for the Care and Treatment of Older People with Depression in a General Hospital Setting* [2nd Ed] Isle of Wight Healthcare NHS Trust.
Young L & George J (1999) *Guidelines for the Management of Delirium in the Elderly*. British Geriatric Society: London.

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Appendices:
Drug risks

DRUG RISKS

DRUG TYPE	EXAMPLES	RISK	COMMENTS
Benzodiazepines	Diazepam, Temazepam Chlordiazepoxide	HIGH	Benzodiazepine withdrawal is also a common cause of delirium
Antidepressants	Amitriptyline Doxepin, Trazodone	HIGH	Risk greatest in drugs with anticholinergic and sedative effects
Antiparkinsonian drugs	Levodopa Bromocriptine Selegeline Trihexyphenidyl Orphenadrine Pergolide	HIGH	All have anticholinergic or dopaminergic effects, which can cause confusion
Analgesics	NSAIDs Opiates Aspirin	HIGH	All analgesics (except Paracetamol) can cause confusion. Of the NSAIDs indometacin is most likely to cause delirium. Confusion due to aspirin is dose related. Opiates have a very high risk of causing confusion
Lithium		HIGH	Only if blood levels are too high
Steroids		HIGH	Risk may be dose related
Antihypertensive medications	α-Blockers β-Blockers ACE Inhibitors CA-Channel Blockers Diuretics	MEDIUM LOW	Diuretics may lead to delirium by causing electrolyte disturbances
Antiarrhythmics	Digoxin Amiodarone Disopyramide Lignocaine	MEDIUM	Lignocaine has highest risk Risk with digoxin is dose related
Antipsychotics	Chlorpromazine Trifluoperazine Haloperidol	MEDIUM LOW	Sedating drugs, with anticholinergic effects (e.g. Chlorpromazine) have higher risk than non-sedating drugs such as haloperidol
Anticonvulsants	Primidone Phenytoin Carbamazepine Valproate	LOW	Risk highest with primidone Lowest risk with valproate and carbamazepine Risk with phenytoin may be dose related

Anticholinergic drugs Antihistamines Antispasmodics	Chlorpheniramine Atropine	MEDIUM	Drugs in this group are often bought over the counter
Histamine blockers	Cimetidine Ranitidine, Famotidine	LOW	Cimetidine may be more likely to cause confusion than the other drugs in this group
Antibiotics	All	LOW - MEDIUM	Although delirium has been attributed to most antibiotics, most cases of confusion occurring during antibiotic treatment are likely to be due to the infection rather than the treatment
Respiratory drugs	Aminophylline	LOW	May cause dose related confusion
Oral hypoglycaemic agents	Tolbutamide Glibenclamide	UNCERTAIN	These drugs may cause hypoglycaemia and hyponatraemia, both of which can cause delirium
Antineoplastic drugs	Methotrexate, Vinca Alkaloids, Fluorouracil, Altretamine, Asparginase, Procarbazine, Carmustine, Dacabazine, Interferon-α	UNCERTAIN	Delirium frequently occurs in malignant disease, therefore it is difficult to attribute the confusion to the drugs. However the drugs listed have been associated with confusion more often than others