RECOGNITION AND ASSESSMENT

Recognition
- Patients with the following conditions are at high risk:
  - dementia
  - visual impairment
  - physical frailty
  - any severe illness
  - infection
  - dehydration
  - renal impairment
  - recent surgery (e.g. fractured neck of femur)
  - alcohol excess
  - polypharmacy

Identify these patients on admission and incorporate prevention strategies into their care plan (see Immediate treatment)

Assessment
Assess mental status of all elderly patients on admission. Repeat whenever there are subsequent changes in mental function
- **Assessment must include:**
  - history taken from patient and a carer. The Single Question in Delirium (SQUID) for carers – “Do you think [patient’s name] has been more confused recently?” is a sensitive screening test but not as specific as CAM.
  - Confusion Assessment Method (CAM) screening instrument (see below)
  - Full Cognitive Assessment eg MMSE or MOCA
  - a full clinical examination, including a neurological and rectal examination (where possible)
  - basic investigations as below

Confusion Assessment Method (CAM) screening instrument
To have a positive CAM result, patient must display:
1. Presence of acute onset and fluctuating course and
2. Inattention (e.g. unable to count down from 20 to 1 with reduced ability to maintain attention or shift attention) and
3. Either disorganised thinking (disorganised or incoherent speech) OR altered level of consciousness (usually lethargic or stuporous)
Differential diagnosis
- Confusion is a symptom, not a diagnosis. Establish in every case whether you are dealing with:
  - delirium (acute confusional state) – acute confusion in a previously well patient, which develops over a short period (hours to days), is always associated with clouding of consciousness and is usually precipitated by an acute medical or surgical problem
  - dementia – continuing confusion relatively unchanged for a month or more
  - delirium superimposed on dementia – acute confusion in a patient with previous cognitive impairment who has become suddenly much worse
  - acute functional psychosis – such as schizophrenia, paraphrenia (a variant of schizophrenia commencing in patients aged >60 yr) or severe depression
  - any combination of the above. See Table 1 for distinguishing features

Investigations
- FBC, U&E, glucose, LFT, CRP, and bone biochemistry
- Blood glucose
- Thyroid function tests
- Blood cultures
- Urinalysis
- Chest X-ray
- ECG
- Pulse oximetry
- Consider need for: lumbar puncture, blood gases, EEG, B₁₂, folate
- Consider CT scan of head only where a brain lesion suspected (fall, head injury, focal neurological signs, evidence of raised intracranial pressure)
Table 1: Clinical features of delirium, dementia and acute functional psychosis

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Delirium</th>
<th>Dementia</th>
<th>Acute functional psychosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>Sudden</td>
<td>Insidious</td>
<td>Sudden</td>
</tr>
<tr>
<td>Course over 24 hr</td>
<td>Fluctuating, worse at night</td>
<td>Usually stable</td>
<td>Stable</td>
</tr>
<tr>
<td>Consciousness</td>
<td>Reduced</td>
<td>Clear</td>
<td>Clear</td>
</tr>
<tr>
<td>Attention</td>
<td>Globally disordered</td>
<td>Usually normal</td>
<td>May be disordered</td>
</tr>
<tr>
<td>Orientation</td>
<td>Usually impaired</td>
<td>Variable</td>
<td>May be impaired</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>Common</td>
<td>Often absent</td>
<td>Predominantly auditory</td>
</tr>
<tr>
<td>Memory</td>
<td>Recent and immediate memory impaired</td>
<td>Recent and remote memory impaired</td>
<td>Variable</td>
</tr>
<tr>
<td>Involuntary movements</td>
<td>Often asterixis or coarse tremor</td>
<td>Often absent</td>
<td>Usually absent except for side effects of drugs</td>
</tr>
<tr>
<td>Physical illness or drug toxicity (see Table 2)</td>
<td>Always present</td>
<td>Often absent</td>
<td>Usually absent</td>
</tr>
</tbody>
</table>

Table 2: Underlying conditions commonly associated with delirium

<table>
<thead>
<tr>
<th>Infection</th>
<th>Metabolic</th>
<th>Drugs/alcohol</th>
<th>CNS</th>
<th>Miscellaneous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest</td>
<td>Hypoxia</td>
<td>Therapeutic use, abuse of, or withdrawal from:</td>
<td>Post-ictal</td>
<td>Sensory overload</td>
</tr>
<tr>
<td>Urinary tract</td>
<td>Fluid, electrolyte or acid-base disturbances</td>
<td>Alcohol, Hypnotics, Tranquillizers, Sedatives, Antidepressants, Anticholinergics, Anticonvulsants, Antiparkinsonian agents, Oral hypoglycaemics, Digoxin, Cimetidine NSAIDs</td>
<td>Head trauma, Multiple cerebral infarcts, Intracerebral neoplasm, Meningitis</td>
<td>New environment, Constipation, Faecal impaction, Pain, Urinary retention</td>
</tr>
<tr>
<td></td>
<td>Hypo- or hyperglycaemia</td>
<td></td>
<td></td>
<td>Sensory deprivation</td>
</tr>
<tr>
<td></td>
<td>Uraemia</td>
<td></td>
<td></td>
<td>Visual impairment, Auditory impairment</td>
</tr>
<tr>
<td></td>
<td>Endocrinopathies</td>
<td></td>
<td></td>
<td>Miscellaneous</td>
</tr>
<tr>
<td>(hepatic failure)</td>
<td></td>
<td></td>
<td></td>
<td>Myocardial infarction, Pyrexia, Hypothermia</td>
</tr>
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</table>

**IMMEDIATE TREATMENT**

**Delirium**

**Environment**
- Nurse in quiet environment (light in the day, dark at night) and in a side room if possible
- Ensure:
  - you ascertain what is worrying the patient. There is often a simple cause which can be addressed
  - appropriate lighting for time of day
  - regular and repeated cues to improve personal orientation (at least 3 times daily)
  - clocks and calendars to improve orientation
  - hearing aids and spectacles available and in good working order
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- continuity of care from nursing staff
- encouragement of mobility
- patient approached and handled gently
- elimination of unexpected irritating noise (e.g. pump alarms)
  - **Avoid:**
    - physical restraints including, bed rails if at all possible as, in some cases, these have not been shown to prevent falls and can increase risk of injury. It may be preferable to nurse patient on a low bed. If this is not feasible, use a mattress or protective mat on the floor. Nursing staff will carry out a risk assessment to assess whether bed rails should or should not be used
- inter- and intra-ward transfers

**Relatives and friends**
- Family and friends, who may be able to calm patient, are encouraged to visit. Ensure nursing staff and family know that patient requires open visiting for his/her own safety
- Explanation of cause of confusion to relatives; encourage them to bring in familiar objects and pictures and to participate in rehabilitation (e.g. to help with feeding and drinking)

**Clinical treatment**
- Treat or remove underlying causes (e.g. treat infection, stop all non-essential medication, correct hypoglycaemia/hypoxia/hypothermia)
- Correct and/or maintain fluid and electrolyte balance, nutrition and vitamin supply (especially B complex) in patients with alcohol dependence or malnutrition – see Alcohol withdrawal guideline
- For alcohol withdrawal delirium – see Alcohol withdrawal guideline
- In malnourished patients or those with a history of ethanol abuse, in whom Vitamin B deficiency is likely, give Fabrinex ampoules 1 & 2, two pairs as IV infusion 8-hrly for 3 days
- Regular analgesia given when needed (e.g. paracetamol)
- Adequate fluid intake to avoid dehydration
- Good diet, fluid intake, and mobility to avoid constipation
- Good sleep pattern (milky drinks at night, exercise during day)
- **Avoid** catheters and constipation

**Drug treatment**

`Do not use anti-psychotic medication (e.g. haloperidol, risperidone, olanzepine) or sedatives for insomnia, restlessness, wandering or disruptive behaviour`

- Keep use of sedatives to a minimum
- If absolutely necessary, consider sedation with:
  - haloperidol 500 microgram oral/IM up to 8-hrly to a maximum dose of 3 mg in 24 hr for a maximum duration of 1 week (avoid in patients with Parkinson’s disease)
- OR
  - with lorazepam 500 microgram–1 mg (15 microgram/kg) 6-hrly (maximum of 2 mg in 24 hr). Give orally (preferably) or by slow IV injection into a large vein.
  - It is recommended that IV lorazepam is diluted 1 to 1 with Sodium Chloride 0.9% before administration. **Only use IM route in the same doses as IV if oral or IV routes are not possible**
- use one drug only, starting at lowest possible dose
- **ensure one-to-one nursing while dose of psychotropic medication is titrated upward** in a controlled and safe manner
- do not use atypical anti-psychotics (risperidone, olanzapine) in patients with dementia or cerebrovascular disease because of increased risk of stroke
- If extrapyramidal symptoms and pyrexia occur, consider neuroleptic malignant syndrome
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- If underlying cause of confusion has been treated, no further anti-psychotic treatment may be necessary
- If maintenance treatment required, consider haloperidol 500 microgram oral daily or 12-hrly. Review all medication at least every 24 hr. Stop after 1 week. No long-term treatment should be required in patients with delirium

**SUBSEQUENT MANAGEMENT**

**Delirium**
- **Further investigation:**
  - if confusion slow to resolve, consider vitamin B$_{12}$ and folate assays, syphilis and HIV serology, and review diagnosis (Table 2)
- **Reconditioning of patient:**
  - encourage good food, adequate fluids, bowel regulation, pain control, sufficient sleep, avoidance of sedation and attention to appearance (clothes, shoes, teeth, spectacles, hearing aids, hair and shaving)
- **Rehabilitation:**
  - start early and be comprehensive to avoid permanent immobility, pressure sores, infections and thromboembolic disease. Always liaise with physiotherapist, occupational therapist and nursing staff. Where rehabilitation likely to be prolonged, refer to department of geriatric medicine where all the resources of the multidisciplinary team are available

**Dementia**
- For insomnia, restlessness, wandering or difficult behaviour, avoid medication. Check for sources of pain or discomfort, and treat effectively. Use behavioural techniques to manage patient
- If above does not resolve problem, give paracetamol 1 g 8-hrly (max 6-hrly, but reduce dose if weight <50 kg). In those weighing less than 50kg maximum dose is 15mg/KG 6hrly
- if not effective after 24 hr, review and consider limited trial of stepped-up pain relief
- Review every 24 hr and stop if behaviour no better
- Typical and atypical anti-psychotic medications (haloperidol, olanzepine) are not licensed for use in dementia. Long-term use doubles the risk of death
- Use of risperidone increases the risk of stroke and death, but has a product licence for short-term use in persistent aggression in patients with Alzheimer’s disease, where behavioural problems cannot be modified using behavioural techniques
  - starting dose: 250 micrograms 12-hrly, increasing in increments of 250 micrograms on alternate days up to a maximum of 500 micrograms 12-hrly
  - Review medication weekly and stop at earliest opportunity
  - Maximum treatment is 6 weeks
- If patient discharged before 6 week course of treatment completed, notify GP or community hospital doctor of stop date so that treatment can be completed if necessary

As risperidone is only indicated for persistent aggression, it must only be prescribed by a consultant geriatrician or psycho-geriatrician

It should never be prescribed by junior staff to treat acute episodes out-of-hours

**MONITORING**
- If change occurs, repeat assessment of mental status (see Recognition and assessment)
- If sedation given, monitor respiratory rate, pulse and blood pressure

**DISCHARGE AND FOLLOW-UP**
- Many elderly patients will make a full recovery and can be discharged without referral to another agency
- Offer reassurance and support – delirium is very unpleasant and can leave patients with unpleasant half recollections of events and delusions

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- Refer to social services if community care package required or full community care assessment needed
- Consider referral to Old Age Psychiatry Liaison or Elderly Care who will provide advice and refer on or discuss with a psycho-geriatrician if necessary
- In patients with delirium, stop all sedatives/anti-psychotics within a week or before discharge whatever comes earlier
- Long-term anti-psychotic medication is not indicated for management of difficult behaviour or aggression (unless patient has a psychotic illness such as schizophrenia or mania). Such use is unlicensed and increases mortality in patients with dementia. If treatment with haloperidol or atypical anti-psychotic is continued past discharge, patient and their relatives must be informed of the unlicensed use of the drug and risk of death and stroke
- A clear plan for reducing and eventually stopping the drug must be communicated to GP, patient and family
- For patients with persisting cognitive impairment, but not previously known to have dementia, advise GP in the summary that patient requires review after discharge to confirm or exclude a diagnosis of dementia; if a dementing illness is then suspected, advise GP to refer to a memory clinic.

REFERENCES / EVIDENCE BASE

http://www.nice.org.uk/guidance/cg103
Bedside Clinical Guidelines Partnership. Acute confusional state (delirium) in older people, 2014

Please complete additional information required for implementation and publication on the Intranet

<table>
<thead>
<tr>
<th>Changes made:</th>
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<tr>
<td>Brief Description: Hospital guidelines on the clinical management of delirium based on latest NICE Guideline CG103.</td>
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<td>Specialties: Emergency Medicine  Elderly Medicine</td>
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<tr>
<td>Keywords: “Acute Confusion” “Delirium”</td>
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<tr>
<td>Further information / local contact(s) Dr Jim George</td>
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<tr>
<td>Staff training: NCUH Trust e-learning on Dementia.</td>
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<tr>
<td>Dissemination: Circulation of guideline to Business Units.</td>
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<tr>
<td>Auditable Outcomes: Frequency of cognitive impairment; frequency of use of SQUID and CAM; Frequency of ward moves for non-clinical reasons.</td>
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