Delirium Pathway
&
Supporting Documents
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Introduction

Delirium is an acute deterioration in mental functioning arising over hours or days that is triggered mainly by acute medical illness, surgery, trauma, or medication. Delirium is independently linked with poor outcomes including medical complications, falls, increased length of hospital stay, discharge to care home rather than previous home address, likelihood of developing dementia and also increased risk of death.

Delirium is a common clinical syndrome characterised by disturbed consciousness, cognitive function or perception, which has an acute onset and fluctuating course. It usually develops over 1–2 days. However, it can be prevented and treated if dealt with urgently. Approximately 30% of cases are likely to be preventable. The hospital environment often precipitates or exacerbates episodes of delirium. Recent evidence, demonstrates that improved understanding of delirium among health professionals and improved attention to the environment surrounding at-risk patients can both prevent the onset of delirium and curtail episodes that do arise.

A person may already have delirium when they present to hospital or it may develop during a hospital admission. Delirium can be hypoactive or hyperactive but some people show signs of both (mixed).

![Diagram showing characteristics of hyperactive and hypoactive delirium]

Hypoactive and mixed delirium can be more difficult to recognise.

It can be difficult to distinguish between delirium and dementia because symptoms overlap, and some people may have both conditions. Dementia tends to develop slowly, whereas delirium is characterised by sudden changes. Dementia is generally a chronic, progressive disease for which there is no cure. Delirium is a potentially reversible condition if the causes are identified and they are treatable. If clinical uncertainty exists over the diagnosis, initial management should be for delirium.
Delirium is among the most common of medical emergencies. The prevalence of delirium in people on medical wards in hospital is up to 30%, and up to 50% of people having surgery develop delirium with considerable variation across different types of surgery and settings. The prevalence is higher in particular clinical groups. It affects up to 50% who have hip fracture and up to 75% in intensive care. Several predisposing factors increase the risk of delirium, these include older age, dementia, frailty, the presence of multiple comorbidities, male sex, sensory impairments, a history of depression, a history of delirium, and alcohol misuse.

Delirium varies in duration, mostly resolving within days, but in some people it can last weeks or months. Despite its importance, reporting of delirium is poor in the UK and performance reported in national audit relating to delirium indicates that Hywel Dda University Health Board’s reporting procedures need to be improved. It is underdiagnosed, and the treatment of patients with established delirium is variable. Preventative measures can reduce the incidence of delirium, yet few clinical units have formal delirium risk reduction programmes.

**Illness, surgery and medications can all cause delirium. It often starts suddenly, but usually lifts when the condition causing it gets better. It can be frightening – not only for the person who is unwell – but also for those around him or her.**

**Who is at risk of delirium?**

Any patient can develop delirium, but certain factors can increase the risk. These include:

- Older people- the risk increases with age
- Older people taking multiple medicines
- People with dementia
- People who are dehydrated
- People with an infection
- Severely ill people or people who are in critical care
- People who have had surgery, especially hip surgery
- People who are nearing the end of their life
- People with sight or hearing difficulties
• People who have a temperature
• Older people with constipation or urinary retention
• People who are in pain

How do I support someone with delirium?

You can help someone with delirium feel calmer and more in control if you:

• Stay calm
• Talk to them in short, simple sentences
• Check if they have understood you. Repeat things if necessary
• Try not to agree with any unusual or incorrect ideas, tactfully disagree or change the subject
• Reassure them - remind them of what is happening and how they are doing
• Remind them of the time and date - make sure they can see a clock and/or a calendar
• Try to make sure that someone they know well is with them. This is often most important during the evening when delirium often gets worse
• If they in hospital, bring in some familiar objects from home
• Make sure they have their glasses and hearing aid correctly in place
• Help them to eat and drink
• Have a light on at night so that they can see where they are if they wake up

This pathway does not cover children and young people (younger than 18 years), people receiving end-of-life care, or people with intoxication and/or withdrawing from drugs or alcohol, and people with delirium associated with these states.
How can I help to prevent delirium?

A range of strategies may help prevent delirium in an older person. NICE 1.2 has outlined the following preventative interventions that may help you to reduce the risk of delirium for the people in your care.

**Cognitive impairment or disorientation**
- Provide appropriate lighting and clear signage. A clock (consider providing a 24-hour clock in critical care) and a calendar should also be easily visible to the person at risk.
- Re-orientate the person by explaining where they are, who they are, and what your role is.
- Introduce cognitively stimulating activities (example reminiscence)
- Facilitate regular visits from family and friends.

**Dehydration or constipation**
- Encourage the person to drink. Consider offering subcutaneous or intravenous fluids if necessary.
- Seek advice if necessary when managing fluid balance in people with comorbidities (example: heart failure, chronic kidney disease).

**Hypoxia**
- Assess hypoxia and optimise oxygen saturation if necessary.

**Immobility or limited mobility**
- Encourage the person to:
  - Mobilise soon after surgery
  - Walk (provide walking aids if needed and ensure these are accessible at all times)
- Encourage all people, including those unable to walk, to carry out active range of motion exercises

**Infection**
- Look for and treat infection.
- Avoid unnecessary catheterisation.
- Implement infection control procedures in line with “Infection Control” (NICE CG2).
Multiple medications
- Carry out a medication review for people taking multiple drugs, taking into account both the type and number of medications.

Pain
- Assess for pain. Look for non-verbal signs of pain, particularly in people with communication difficulties.
- Start and review appropriate pain management in any person in whom pain is identified or suspected.

Poor nutrition
- Follow the advice given on nutrition in “Nutrition support in adults” (NICE CG 32).
- If the person has dentures, ensure they fit properly.

Sensory impairment
- Resolve any reversible cause of the impairment (such as impacted ear wax).
- Ensure working hearing and visual aids are available and used by people who need them.

Sleep disturbances
- Avoid nursing or medical procedures during sleeping hours, if possible.
- Schedule medication rounds to avoid disturbing sleep.
- Reduce noise to a minimum during sleep periods (see NICE CG35)
Delirium Risk Reduction

1 in 5 people in acute hospitals can have delirium

- Prolonged hospital stay. Work together to plan for discharge and avoid lengthy hospital stay

Screen for delirium
- Good history from carer/family and screening tools can identify problems early on

Hydration
- Ensure people have adequate hydration in hospital

Sight and hearing
- Helping people with sensory impairment appropriately

Medication
- Avoid polypharmacy. Early medication reviews can be very useful

Sleep in hospital
- Promote healthy environment for good sleep

Constipation
- Promote good bowel function

Promoting mobility and function in hospital
Identifying and managing delirium

It is important to involve families and/or carers in identifying delirium. On admission, simply asking relatives or carers:

“Do you think (name of person) has been more confused lately?”
can help identify change and help keep families and carers involved.

On a busy acute ward delirium may not be spotted. Recognizing acute delirium as part of your routine [RADAR], has proven to be efficient, reliable, sensitive and very well accepted tool for screening for delirium through the day. Completion takes approximately 7 seconds and is undertaken 3 times a day (potentially as part of intentional rounding).

The 4 “A” Test or 4AT (www.the4at.com) is a rapid clinical assessment tool for delirium detection and is among the most widely-used clinical tests for delirium internationally. It is a short practical tool designed to be used by any health care professional in busy areas were assessment for delirium is needed, either on first contact with the patient or subsequently when delirium is suspected (potentially triggered by change highlighted by RADAR). The tool incorporates the Months Backwards test and the Abbreviated Mental Test-4 (AMT4) which are short tests for cognitive impairment. As an assessment tool the 4AT does not provide a formal diagnosis but a positive score should trigger a more formal assessment.

Through testing of detection methods and the initiation of the TIME bundle a combined tool to detect, manage, and review delirium through repeated assessment has been created.

These tools are the start of a process to manage the medical emergency delirium. They aim to help clinicians to follow appropriate care pathways and help plan ongoing care and assessment to ensure safe, effective, person-centred delivery of care every time.
**TIME BUNDLE**
There’s no **TIME** like the present.
For patients aged 75 and over when clinical history suggests delirium or assessment tool 4AT positive:

- Initiate all elements of this CARE BUNDLE within 2 hours

**T** THINK about possible triggers acute illness, pain, trauma

**I** INVESTIGATE
- Carry out early warning score
- Start fluid balance chart
- Send routine bloods & appropriate cultures, imaging
- Consider drug withdrawal / intoxication, alcohol

**M** MANAGEMENT
- Medication review, infection, hypoxia, hypoglycaemia.

**E** ENGAGE
- Triggers referral to Liaison Psychiatry
  - Severe agitation or distress not responding to standard measures above
  - Doubt about diagnosis
  - If formal assessment under Mental Health Act is being considered
- Psychiatric services may also hold useful information on background cognition and mental health.

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**DELIRIUM MANAGEMENT COMPREHENSIVE PATHWAY - ACUTE HOSPITAL**

**Adult presents**
If positive for RADAR, clinical suspicion of delirium, perform 4AT delirium screen as part of clerking documentation

**Possible delirium is a Medical Emergency**
TIME bundle initiate all elements within 2 hours

**Act on acute, severe causes & stabilise patient**
- e.g. infection / medication toxicity / hypoxia / hypoglycaemia / dehydration / retention / constipation

**MANAGEMENT**
- Treat underlying causes (in up to 30% cases no cause is found)
- Investigation
- Medication review
- Optimise clinical...

**General Management**
- Document diagnosis of delirium in notes
- Explain to patient & carer
- Use ‘This is Me’ & ‘Butterfly Scheme’
- Assess & monitor pain
- Encourage oral hydration & nutrition wherever possible & document daily intake
- Good pressure area care
- Avoid catheterisation unless absolutely necessary
- Treat constipation
- Consider if swallow safe
- Avoid unnecessary interventions

**Environmental Measures**
- Ensure glasses are clean & worn
- Ensure hearing aid is working and ensure buzzer is close to patient
- Give regular gentle reassurance & orientation prompts (use clocks & calendars)
- Promote mobility and meaningful activity as much as possible
- Consider an interpreter for language choice of patient
- Ensure adequate uninterrupted sleep
- Avoid ward moves unless in the clinical interest of the patient

**Treat Delirium Symptoms**
- Encourage family visits, relax visiting times, involve relatives in care
- Consider additional staff if challenging behaviour or wandering
- If symptoms or behaviour threaten the patient or others, use the lowest possible doses of medication, ‘start low, go slow’ and review every 24h
- Seek senior advice
- Assess mental capacity and need for deprivation of liberty safeguarding DOLS
- Inform next of kin if medication changes

**Patient NOT improving**
If no improvement after 5 to 7 days or if cause of delirium not clear, refer to Geriatric services

**Patient Improving**
- Repeat AMT10 cognitive assessment
- Consider post-delirium distress
- Encourage patient to share their experience with healthcare staff
- Reduce & discontinue antipsychotic treatment

**Delirium diagnosis must be included in ALL discharge documentation**

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**RADAR**
1: Is the person more sleepy than usual?
2: Did they have trouble following my instructions?
3: Have their movements slowed down?

**4AT**
1. **Alertness**
   - Normal (fully alert, not agitated throughout assessment) 0
   - Mild sleepiness for < 10 seconds after waking, then normal 0
   - Clearly abnormal 4

2. **AMT4 (4 item Abbreviated Mental Test)**
   - Age, Date of Birth, Place, Year
   - No mistakes 0
   - 1 mistake 1
   - ≥ 2 mistakes / untestable 2

3. **Attention**
   - Months of the year backwards
   - Achieves 7 months or more correctly 0
   - Starts but scores < 7 months or refuses to start 1
   - Untestable (cannot start because unwell, drowsy, inattentive) 2

4. **Acute Change or fluctuating symptoms?**
   - No 0
   - Yes 4

TOTAL: _______
≥ 4: possible delirium +/- cognitive impair
1-3: possible cognitive impairment
0: delirium or cognitive impairment unlikely (but delirium still possible if info incomplete)

**Delirium can persist for weeks or months after the cause is treated**
**PHARMACOLOGICAL MANAGEMENT OF DELIRIUM**

**Start with:**
Behavioural approaches. Consider & treat all possible underlying causes.

**Consider stopping drugs that may be associated with delirium especially those with anticholinergic activity.**
High risk drugs include tricyclic antidepressants, phenothiazines and anticholinergics.
Medium risk drugs include benzodiazepines, sedatives, dopamine-activating drugs, anticonvulsants, histamine H2 receptors blockers, digoxin, beta-blockers and analgesics.

Try the lowest clinically effective dose via the **Oral Route** initially if possible¹ - seek senior advice
Use one drug at the time, use small doses, repeat if necessary and review every 24hrs.
Tailor doses to age, body size and level of agitation.
Indications for sedation: carry out essential investigation or treatments, prevent danger to self or others, relieve patient distress.

**If any of the following concomitant conditions present:** Parkinson's disease, Lewy body dementia, seizures, elongated QTc (>470ms), alcohol or illicit drug intoxication, use Lorazepam first line (otherwise avoid in delirium)

- **Haloperidol 0.5 – 1mg Hourly**
  (Max 5mg in 24hrs)
  High incidence of acute dystonia; ensure PO/IM Procyclidine is available – pre-treatment ECG required.
  **Caution** with antipsychotic naïve patients and in those whose sub-type of dementia is unknown.

  OR

- **Olanzapine 2.5mg – 5mg 2 hourly**
  (Max 10mg in 24hrs)
  Can be used in patients with a history of dystonia.
  Olanzapine may be better tolerated if antipsychotics are needed for longer time periods.

- **Lorazepam 0.5 – 1mg 1-2 hourly**
  (Max 4mg in 24hrs)
  Avoid unless patient has Parkinson’s disease, Lewy body dementia, seizures, elongated QTc (>470ms), alcohol or illicit drug intoxication, or an ECG is not practical.
  Have Flumazenil to hand in case of benzodiazepine induced respiratory depression.

Consider **IM treatment** if two oral doses fail or sooner if the patient is placing themselves or others at significant risk.

- **Haloperidol 0.5 – 1mg 2 Hourly**
  (Max 5mg in 24hrs)
  High incidence of acute dystonia; ensure PO/IM Procyclidine is available – pre-treatment ECG required.

  OR

- **Lorazepam 0.5mg – 1mg 1-2 hourly**
  (Max 4mg in 24hrs)
  Use first line in conditions above (avoid otherwise)
  Have Flumazenil to hand in case of benzodiazepine induced respiratory depression.

**Monitor** sedated patients with respiratory rate, pulse oximetry, BP, pulse and temperature.
**Beware** of respiratory depression and risk of developing NMS with antipsychotics.

If that doesn’t work after 30-60 minutes
Consider psychiatric review if frequent doses/daily max doses are reached.
Delirium

Supporting Documents
### 4AT Assessment Test for Delirium & Cognitive Impairment

**Patient name:**

**Date of birth:**

**Patient number:** (label)

**Date:**

**Time:**

**Tester**

CIRCLE

### [1] ALERTNESS

This includes patients who may be markedly drowsy (e.g., difficult to rouse and/or obviously sleepy during assessment) or agitated/hyperactive. Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal (fully alert, but not agitated, throughout assessment)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mild sleepiness for &lt;10 seconds after waking, then normal</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Clearly abnormal</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

### [2] AMT4

**Age, date of birth, place (name of the hospital or building), current year.**

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No mistakes</td>
<td>0</td>
</tr>
<tr>
<td>1 mistake</td>
<td>1</td>
</tr>
<tr>
<td>2 or more mistakes/untestable</td>
<td>2</td>
</tr>
</tbody>
</table>

### [3] ATTENTION

Ask the patient: “Please tell me the months of the year in backwards order, starting at December.” To assist initial understanding one prompt of “what is the month before December?” is permitted.

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Months of the year backwards - achieves 7 months or more correctly</td>
<td>0</td>
</tr>
<tr>
<td>Starts but scores &lt;7 months / refuses to start</td>
<td>1</td>
</tr>
<tr>
<td>Untestable (cannot start because unwell, drowsy, inattentive)</td>
<td>2</td>
</tr>
</tbody>
</table>

### [4] ACUTE CHANGE OR FLUCTUATING COURSE

Evidence of significant change or fluctuation in: alertness, cognition, other mental function (e.g., paranoia, hallucinations) arising over the last 2 weeks and still evident in last 24hrs

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
</tr>
</tbody>
</table>

**4 or above:** possible delirium +/- cognitive impairment

**1-3:** possible cognitive impairment

**0:** delirium or severe cognitive impairment unlikely (but delirium still possible if [4] information incomplete)

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**4AT SCORE**

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**GUIDANCE NOTES**

The 4AT is a screening instrument designed for rapid initial assessment of delirium and cognitive impairment. A score of 4 or more suggests delirium but is not diagnostic: more detailed assessment of mental status may be required to reach a diagnosis. A score of 1-3 suggests cognitive impairment and more detailed cognitive testing and informant history-taking are required. A score of 0 does not definitively exclude delirium or cognitive impairment: more detailed testing may be required depending on the clinical context. Items 1-3 are rated solely on observation of the patient at the time of assessment. Item 4 requires information from one or more source(s), e.g., your own knowledge of the patient, other staff who know the patient (e.g., ward nurses), GP letter, case notes, carers. The tester should take account of communication difficulties (hearing impairment, dysphasia, lack of common language) when carrying out the test and interpreting the score.

**Alertness:** Altered level of alertness is very likely to be delirium in general hospital settings. If the patient shows significant altered alertness during the bedside assessment, score 4 for this item. **AMT4 (Abbreviated Mental Test - 4):** This score can be extracted from items in the AMT10 if the latter is done immediately before. **Acute Change or Fluctuating Course:** Fluctuation can occur without delirium in some cases of dementia, but marked fluctuation usually indicates delirium. To help elicit any hallucinations and/or paranoid thoughts ask the patient questions such as, “Are you concerned about anything going on here?”; “Do you feel frightened by anything or anyone?”; “Have you been seeing or hearing anything unusual?”

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Delirium Guidance Draft v3 June 2019
4AT Repeat Assessment Tool

Tester: 
Date: 
Time: 

[1] ALERTNESS
This includes patients who may be markedly drowsy (eg. difficult to rouse and/or obviously sleepy during assessment) or agitated/hyperactive. Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.

Normal (fully alert, but not agitated, throughout assessment) 
Mild sleepiness for <10 seconds after waking, then normal 
Clearly abnormal

[2] AMT4
Age, date of birth, place (name of the hospital or building), current year.

No mistakes
1 mistake
2 or more mistakes/unteatable

[3] ATTENTION
Ask the patient: “Please tell me the months of the year in backwards order, starting at December.” To assist initial understanding one prompt of “what is the month before December?” is permitted.

Months of the year backwards - achieves 7 months or more correctly
Starts but scores <7 months / refuses to start
Untestable (cannot start because unwell, drowsy, inattentive)

[4] ACUTE CHANGE OR FLUCTUATING COURSE
Evidence of significant change or fluctuation in: alertness, cognition, other mental function (eg. paranoia, hallucinations) arising over the last 2 weeks and still evident in last 24hrs

No
Yes

4AT score
4 or above: possible delirium +/- cognitive impairment
1-3: possible cognitive impairment
0: delirium or severe cognitive impairment unlikely (but delirium still possible if [4] information incomplete)

Total

Patient name: 
Date of birth: 
Patient number: (label)
## TIME bundle

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of birth:</td>
<td>Time:</td>
</tr>
<tr>
<td>Patient number:</td>
<td></td>
</tr>
<tr>
<td>Practitioner name:</td>
<td>Practitioner signature:</td>
</tr>
<tr>
<td>Designation:</td>
<td></td>
</tr>
</tbody>
</table>

### Initiate TIME within 2 hours (initial and write time of completion)

<table>
<thead>
<tr>
<th>Assessed/</th>
<th>Results</th>
<th>Abnormality found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinks, exclude and treat possible triggers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEWS (think sepsis 6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood glucose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medication history (identify new medications/ change of dose/ medication recently stopped)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain review (Abbey Pain Scale)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess for urinary retention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess for constipation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Investigate and intervene to correct underlying causes

<table>
<thead>
<tr>
<th>Assessed/</th>
<th>Results</th>
<th>Abnormality found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess hydration and start fluid balance chart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bloods (FBC, U&amp;E, Ca, LFT’s, CRP, Mg, Glucose)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Look for symptoms/ signs of infection (skin, chest, urine, CNS) and perform appropriate cultures/ imaging depending on clinical assessment (see sepsis 6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECG (ACS)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Management Plan

<table>
<thead>
<tr>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate treatment of ALL underlying causes found above</td>
</tr>
</tbody>
</table>

### Engage and Explore - complete within 2 hours or if family/carer not present within 24 hours

<table>
<thead>
<tr>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engage with patient/ family/ carer - explore if this is usual behaviour. Ask: How would you like to be involved?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain diagnosis of delirium to patient and family/carers (use delirium leaflet)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document diagnosis of delirium</td>
</tr>
</tbody>
</table>
## TIME bundle guidance

<table>
<thead>
<tr>
<th>Triggers</th>
<th>Investigate</th>
<th>Manage</th>
<th>Engage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe illness</td>
<td>FBC, U&amp;E’s, CRP, LFT’s, Glucose, Mg, Ca, PO</td>
<td>First and foremost treat underlying causes</td>
<td>Family and carers can give you a history of change. Always speak to them to obtain history and baseline function.</td>
</tr>
<tr>
<td>Trauma/surgery</td>
<td>Urinalysis</td>
<td>Manage sepsis</td>
<td>Family and friends can help re-orientate.</td>
</tr>
<tr>
<td>Pain</td>
<td>Consider ABG</td>
<td>Refer to delirium management pathway</td>
<td>Always document delirium diagnosis.</td>
</tr>
<tr>
<td>Infection/sepsis</td>
<td>Culture, urine, sputum, wounds.</td>
<td>DO NOT USE RESTRAINT</td>
<td>Reassure families and carers.</td>
</tr>
<tr>
<td>Dehydration</td>
<td>Consider blood culture (Sepsis 6), CXR</td>
<td>AVOID ANTIPSYCOTIC MEDICATIONS-these may worsen delirium or contribute to the risk of falls and immobility (refer to Pharmacological Management of Delirium flowchart)</td>
<td></td>
</tr>
<tr>
<td>Hypoxia</td>
<td>Always carry out routine observations (NEWS) including AVPU and Think Glucose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoglycaemia</td>
<td>Start fluid balance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medications</td>
<td>Think about hydrations status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol and drug withdrawal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinary retention/constipation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 4AT Combined Assessment Tool

Name: 
Date of birth: 
Patient number: 
Date: 
Time: 
Practitioner name: 
Practitioner signature: 
Designation: 

### 1. Alertness
This includes patients who may be markedly drowsy (eg. difficult to rouse and/or obviously sleepy during assessment) or agitated/hyperactive. Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.

<table>
<thead>
<tr>
<th>Alertness Level</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full alert, but not agitated, throughout assessment</td>
<td>0</td>
</tr>
<tr>
<td>Mild sleepiness for &lt;10 seconds after waking, then normal</td>
<td>0</td>
</tr>
<tr>
<td>Clearly abnormal</td>
<td>4</td>
</tr>
</tbody>
</table>

### 2. AMT4
Age, date of birth, place (name of the hospital or building), current year.

- No mistakes: 0
- 1 mistake: 1
- 2 or more mistakes/ untestable: 2

### 3. Attention
Ask the patient: “Please tell me the months of the year in backwards order, starting at December.”

To assist initial understanding one prompt of “what is the month before December?” is permitted.

<table>
<thead>
<tr>
<th>Attention</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Months of the year backwards - achieves 7 months or more correctly</td>
<td>0</td>
</tr>
<tr>
<td>Starts but scores &lt;7 months / refuses to start</td>
<td>1</td>
</tr>
<tr>
<td>Untestable (cannot start because unwell, drowsy, inattentive)</td>
<td>2</td>
</tr>
</tbody>
</table>

### 4. Acute Change or Fluctuating Course
Evidence of significant change or fluctuation in: alertness, cognition, other mental function (eg. paranoia, hallucinations) arising over the last 2 weeks and still evident in last 24hrs.

<table>
<thead>
<tr>
<th>Acute Change or Fluctuating Course</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
</tr>
</tbody>
</table>

### Management Plan
Initiate treatment of ALL underlying causes found above

### Think, Exclude and Treat Possible Triggers
- NEWS (think sepsis 6)
- Blood glucose
- Medication history (identify new medications/ change of dose/ medication recently stopped)
- Pain review (Abbey Pain Scale)
- Assess for urinary retention
- Assess for constipation

### Investigate and Intervene to Correct Underlying Causes
- Assess hydration and start fluid balance chart
- Bloods (FBC, U&E, Ca, LFT’s, CRP, Mg, Glucose)
- Look for symptoms/ signs of infection (skin, chest, urine, CNS) and perform appropriate cultures/ imaging depending on clinical assessment (see sepsis 6)
- ECG (ACS)

### Management Plan
Initiate treatment of ALL underlying causes found above

### Engage and Explore
- Complete within 2 hours or if family/carer not present within 24 hours
- Engage with patient/ family/ carer- explore if this is usual behaviour.
- Ask: How would you like to be involved?
- Explain diagnosis of delirium to patient and family/carers (use delirium leaflet)
- Document diagnosis of delirium

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If score 4 or more this is possible delirium +/- cognitive impairment

If score 1-3 possible cognitive impairment. More detailed cognitive assessment and informant history taking are required

If score 0 delirium or severe cognitive impairment unlikely (but delirium still possible if [4] information incomplete)
### When you gave the patient his/her medication...

(Tick Yes or No)

<table>
<thead>
<tr>
<th>Date:</th>
<th>Date:</th>
<th>Date:</th>
<th>Date:</th>
<th>Date:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>initials</td>
<td>Yes</td>
<td>No</td>
<td>initials</td>
</tr>
<tr>
<td>08:00</td>
<td></td>
<td></td>
<td>12:00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **… was the patient drowsy?**

2. **… did the patient have trouble following your instructions?**

3. **… were the patient’s movements slowed down?**

---

<table>
<thead>
<tr>
<th>Name</th>
<th>Initials</th>
<th>Name</th>
<th>Initials</th>
<th>Name</th>
<th>Initials</th>
<th>Name</th>
<th>Initials</th>
</tr>
</thead>
</table>

The authors cannot be held accountable for any damages whatsoever, direct or indirect, resulting from the use of RADAR. Using RADAR may not be suitable for some patients and under no circumstances can it replace the clinical judgement of a health professional.
# Pointers for Specific Elements

<table>
<thead>
<tr>
<th>RADAR items</th>
<th>Pointers</th>
</tr>
</thead>
</table>
| 1. ... Was the patient drowsy? | Did he/she have a tendency to fall asleep?  
| | Did he/she have difficulty staying awake? |
| 2. ... Did the patient have difficulty following your instructions? | Did he/she take the medication when you gave it to them?  
| | Did he/she hold out his/her hand?  
| | Did he/she bring the medication up to their mouth?  
| | Did he/she take the glass of water (or drink it) when you offered it to him/her?  
| | Did his/her gaze follow your movements or gestures when you spoke to him/her (visual contact)? |
| 3. ... Were the patient’s movements slowed down? | Did he/she move slowly?  
| | Was the patient slow when he/she sat, walked and took his/her medication? |

If you happened to observe one of those behaviours since the distribution of medication, tick “Yes”. In case of doubt, also tick “Yes.”

To learn more about RADAR, visit the website: [www.fsi.ca/radar](http://www.fsi.ca/radar)
Delirium learning resources

Training for RADAR is available at  [http://www.radar.fsi.ulaval.ca/?page_id=54](http://www.radar.fsi.ulaval.ca/?page_id=54)

- RADAR powerpoint training – is ppt with imbedded video clips of different types of delirium  [Download RADAR powerpoint training](http://www.radar.fsi.ulaval.ca/?page_id=54)
- RADAR video training – is ppt with training voice over  
  (To download this video training (compressed ZIP file), click here)

Information is readily accessible

- [https://www.youtube.com/watch?time_continue=29&v=hwz9M2jZi_o](https://www.youtube.com/watch?time_continue=29&v=hwz9M2jZi_o)
- [https://www.youtube.com/watch?v=qmMYsVaZo](https://www.youtube.com/watch?v=qmMYsVaZo)
- [https://www.youtube.com/watch?v=BPfZgBmcQB8&feature=youtu.be](https://www.youtube.com/watch?v=BPfZgBmcQB8&feature=youtu.be)
- [https://www.youtube.com/watch?v=_c9M4FnDwOc](https://www.youtube.com/watch?v=_c9M4FnDwOc)

- The International Federation of Delirium Societies video gallery [www.idelirium.org](http://www.idelirium.org)
- London Hospital Resource Centre: Critical Care Trauma Centre: Delirium Resource Centre  
  [https://www.lhsc.on.ca/critical-care-trauma-centre/delirium-resource-centre](https://www.lhsc.on.ca/critical-care-trauma-centre/delirium-resource-centre)

Staff, patients’ and families experiences

Utilise staff, patients’ and families’ experiences of episodes of delirium in an acute hospital setting to enhance your learning about caring for patients and families during an episode of delirium and help improve communication and continued engagement with everyone involved.