Liverpool Heart and Chest Hospital NHS
NHS Foundation Trust

Delirium Management

e-LfH e-Learning for Healthcare

NHS Health Education England

Public Health England

Inspected and rated Outstanding ☆ CareQuality Commission

Excellent, Compassionate and Safe care for every patient, every day

Learning Objectives

Introduction

Delirium (sometimes called an acute confusional state) is a clinical syndrome characterised by disturbed consciousness, cognitive function or perception which has an acute onset and a fluctuating course

Can be hyperactive, hypoactive or both

May be present when a person presents to hospital or develop during a hospital admission

Is a common but serious syndrome but associated with poor outcomes. Some of the consequences of delirium are:

- Increased risk of dementia, long-term neuropsychological deficits and death
- Increased number of ventilator days, LOS in Critical care, Increased LOS in Hospital, increased risk of HCAI

Older people, those with dementia or severe illness are more at risk of delirium

Acute onset

Cognitive impairment (confusion)

Fluctuating severity

What is Delirium?

Hallucinations

Inattention

Disorganised thinking

Delirium – Definition

A common clinical syndrome characterised by:

- Acute onset cognitive decline = new confusion
- Fluctuating course
  - e.g. may be worse at night
- Inattention
  - e.g. unable to focus on a task, conversation
- Disturbed consciousness and/or disorganised thinking
  - e.g. hallucinating, disorientated in time or place

Types of delirium

Delirium (sometimes called ‘acute confusional state’) is a clinical syndrome characterised by disturbed consciousness, cognitive function or perception, which has an acute onset and fluctuating course.

Hyperactive	Hypoactive	Mixed
Characterised by people who have a heightened arousal, can be restless, agitated and aggressive	Characterised by people who are quiet, withdrawn and sleepy, this is not well recognised and misdiagnosed	Delirium can be hypoactive and hyperactive but some people show signs of both, most common in ICU and has the worst prognosis
2% of episodes	44% of episodes	55% of episodes

Clinical factors contributing to delirium

- Age >60 years
- Visual and hearing impairment
- Cognitive impairment and mental health issues
- Alcohol/nicotine/drug withdrawal
- Dehydration/electrolyte disturbances
- Poor nutrition/constipation
- Acute illness/infection
- Medication
- Hypoxia
- Poor mobility
- Sleep deprivation/poor sleep hygiene
- Sensory overload/excessive lighting, noise and stimulation

Delirium – The Patient Perspective

Medication and delirium

Drug therapy can contribute to the development of delirium, prompt cessation of medications when no longer required can help minimise the occurrence of delirium

Directly Deliorgenic Drugs:

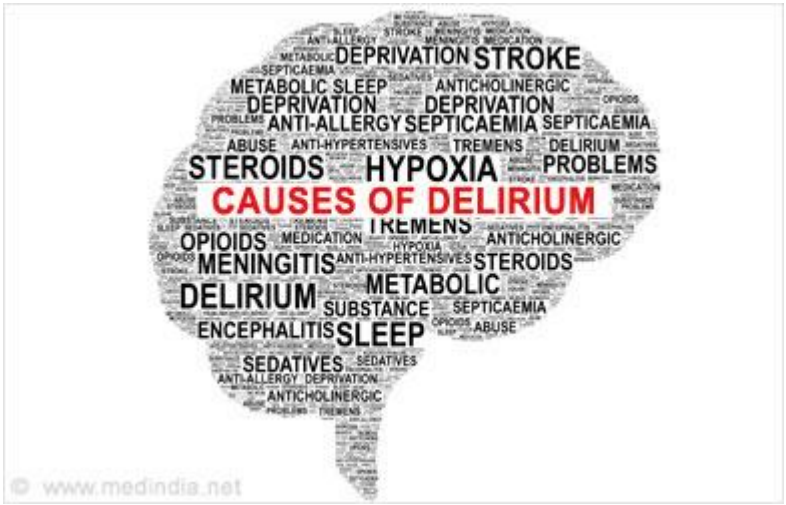
- **Analgesics:** Pethidine, Morphine, Fentanyl, codeine.
- **Hypnotics:** Diazepam, Thiopental, Chloral Hydrate, Chlordiazepoxide
- **CVS drugs:** Atenolol, Digoxin, Dopamine
- **Corticosteriods:** Dexamethasone, Hydrocortisone, Prednisolone
- **Other:** Furosemide, Ranitidine

Drugs affecting sleep/sleep cycle (REM, SWS, TST)

- **Benzodiazepines:** Diazepam, Midazolam
- **Analgesics:** Opioids, NSAID's
- **CVS:** Dopamine, Amiodarone, B-Blockers, Nor/Adrenaline,
- **Antidepressants & SSRI's**
- **Anticonvulsants:** Phenytoin & Phenobarbitol

Delirium – Causes

- Critical illness
- Increasing age
- Prior neurological/cognitive impairment
- Hypoxia
- Sepsis
- Medications
- Constipation
- Pain
- Sensory impairment
- Poor nutrition
- Dehydration
- The list goes on…



Medication and delirium

Jack is a 60 year old man admitted with pneumonia, he smokes 30 cigarettes a day, "likes a drink" and has taken Fluoxetine since is wife's death.

He is now confused.

Jill is a 30 year old who has been on the ICU for 2 weeks with severe asthma. She is on high dose steroids, has been given Zopiclone for night sedation and hyoscine for hyper-salivation and has had a prolonged period of sedation.

She is now confused

Acute withdrawal of nicotine may cause confusion - there is no evidence for routine replacement but nicotine replacement should be considered in smokers who have delirium.

Alcohol withdrawal is a very common cause of delirium in critical care - its treatment is different from the management of many other types of critical care delirium and you should know how to access your Trust's policy for the management of this condition.

Patients normally have anti-depressants gradually withdrawn over weeks - acute withdrawal can cause delirium.

Many of the medications we start can cause delirium.

Steroids can make patients confused and doses at night can cause insomnia.

Long courses of sedation can cause confusion on withdrawal and the active metabolites can last of a long time.

Hyoscine can cross the blood brain barrier and cause confusion.

A more comprehensive list of medications associated with delirium is found in the delirium guide referenced at the end of the presentation.

Signs of delirium

Changes or fluctuations in behavior may be observed or reported by the person at risk, or a career or relative.

These changes may affect:-

- Cognitive function For example - changes in concentration*, slow responses*, confusion
- Perception For example - visual or auditory hallucinations
- Physical function For example - changes in mobility*, changes in movement*, restlessness, agitation, changes in appetite*, sleep disturbance
- Social behavior For example - lack of co-operation with reasonable requests, withdrawal* or alterations in communication, mood and/or attitude

* Be particularly vigilant for behavior indicating hypoactive delirium

Delirium Assessment
The Richmond Agitation Sedation Score (RASS)

By assessing for delirium and using preventative strategies we aim to reduce the burden associated with it.

Using a validated tool that monitors sedation levels aims to identify for the presence of inattention

The RASS is a ten point scale that assesses both degrees of agitation and sedation

RASS score

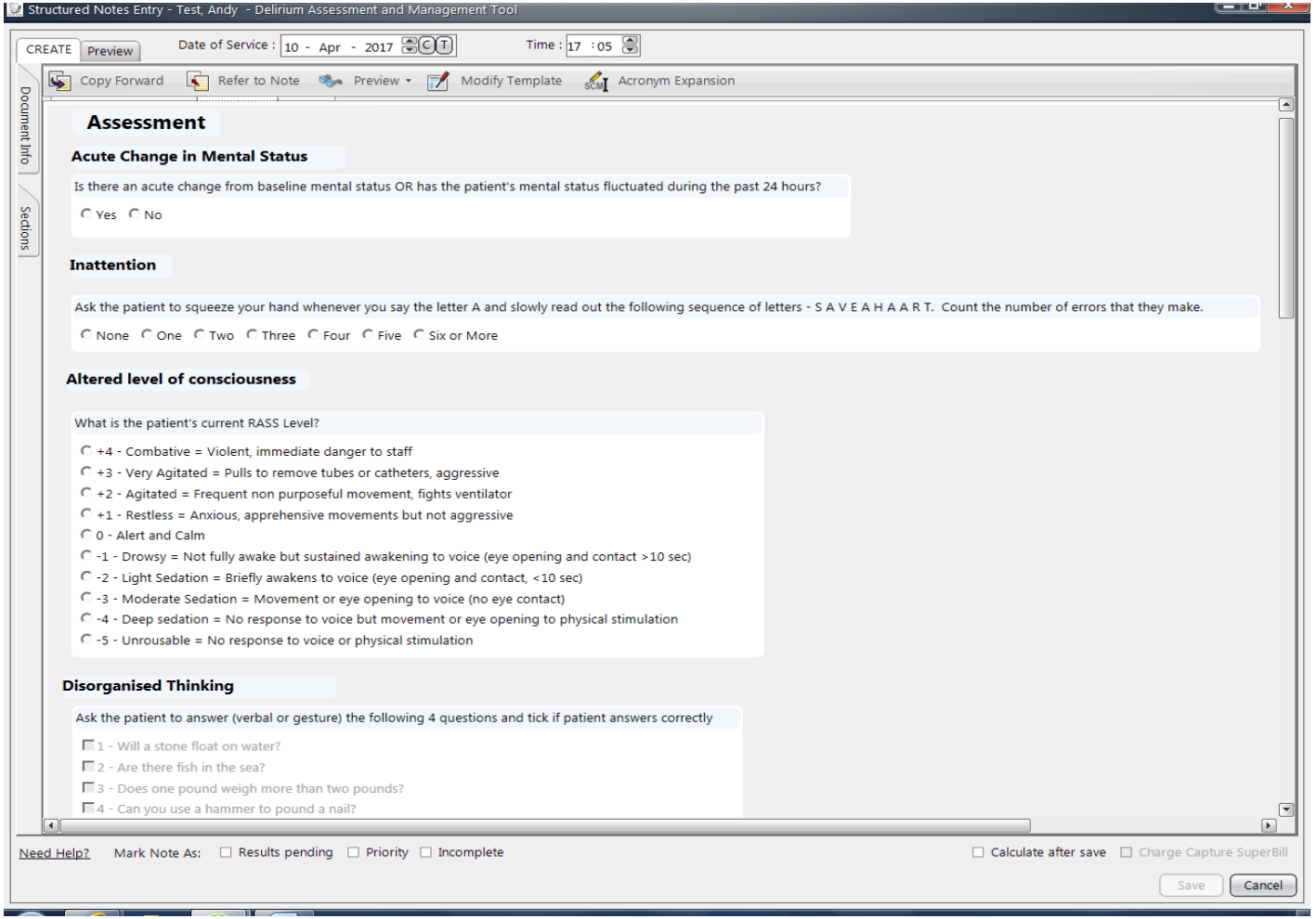
Richmond Agitation & Sedation Scale				CAM-ICU
Score	Description			
+4	Combative	Violent, immediate danger to staff		RASS ≥ -2 Proceed to CAM-ICU assessment
+3	Very agitated	Pulls at or removes tubes, aggressive		
+2	Agitated	Frequent non-purposeful movements, fights ventilator		
+1	Restless	Anxious, apprehensive but movements not aggressive or vigorous		
0	Alert & calm			
-1	Drowsy	Not fully alert, sustained awakening to voice (eye opening & contact >10 secs)	Voice	
-2	Light sedation	Briefly awakens to voice (eye opening & contact < 10 secs)		
-3	Moderate sedation	Movement or eye-opening to voice (no eye contact)		RASS < -2 STOP Recheck later
-4	Deep sedation	No response to voice, but movement or eye opening to physical stimulation	Touch	
-5	Un-rousable	No response to voice or physical stimulation		

When assessing sedation it differentiates between verbal and physical stimulation, it also makes a basic assessment of attention, providing a possible indicator of delirium (ICS 2104)

- Identify patients at risk before delirium develops **Through CAM-ICU screening each shift.**
- Try to reduce the chance of delirium developing in patients deemed at risk
- Identify delirium early when it develops
- Try to rectify any reversible causes of delirium
- **Avoid** using drugs unless the patient is a risk to themselves or others – **DRUGS DO NOT TREAT DELIRIUM**

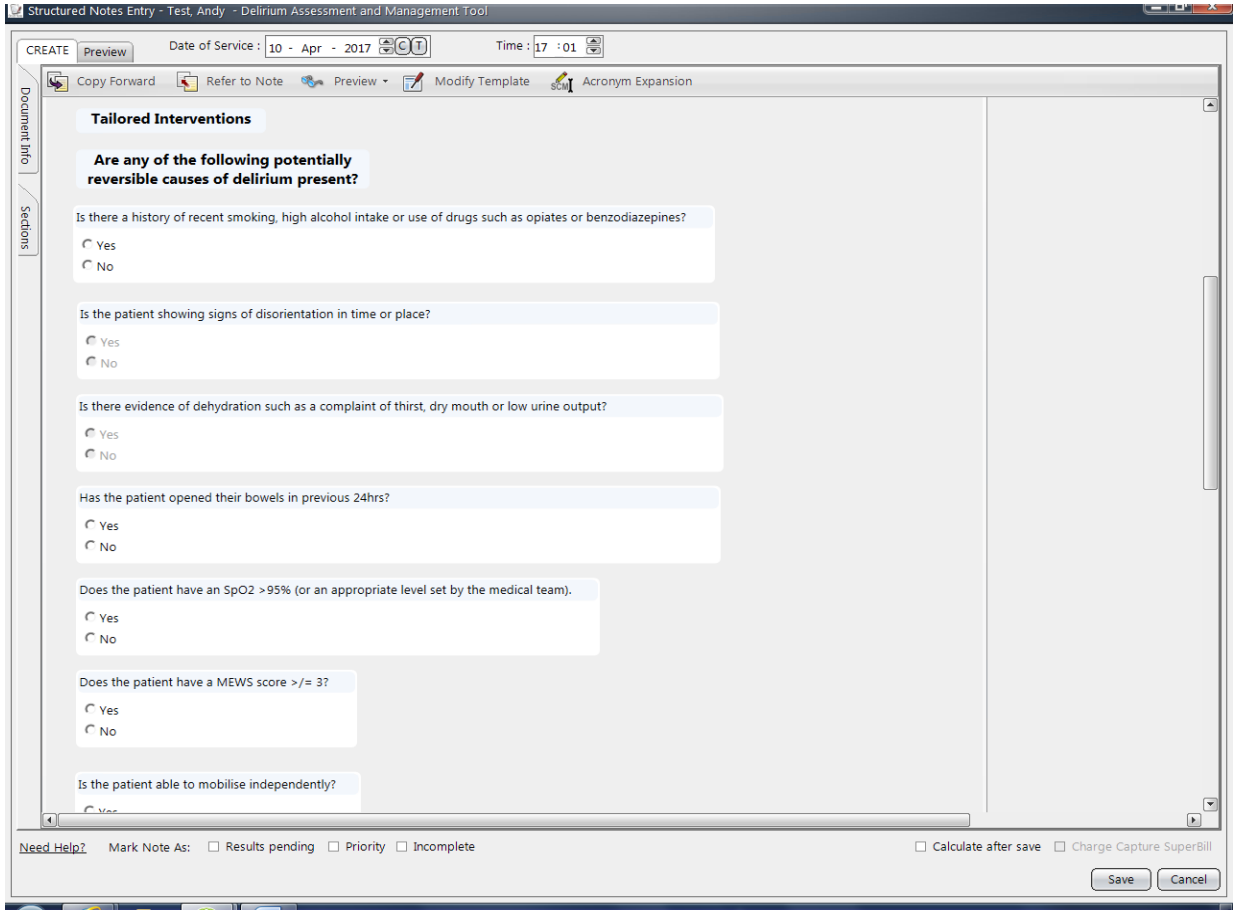
CAM - ICU

Assessment section – this is the CAM-ICU, a red box will appear if the patient has delirium



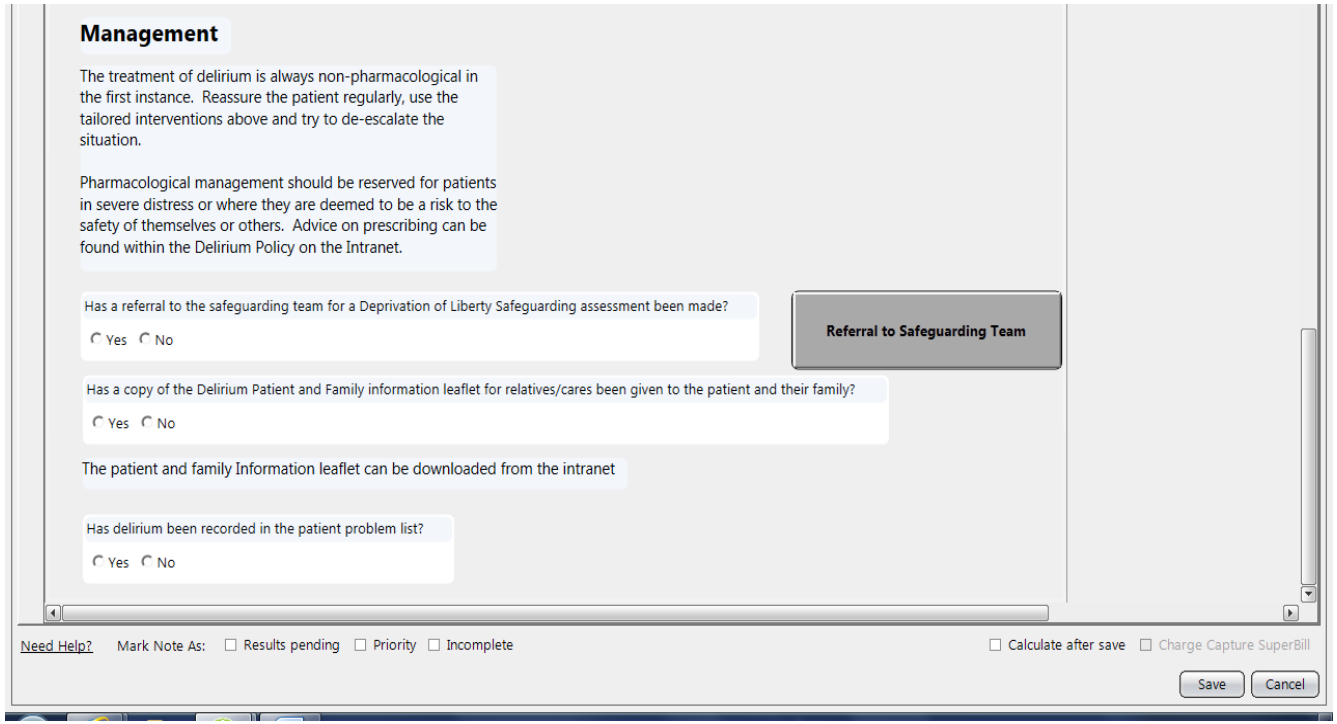
Delirium – CAM-ICU Screening

- Tailored Interventions – complete this section for all patients too. All patients are at risk of delirium and the interventions advised may reduce the chance of it occurring and may reduce duration/severity



Delirium – CAM-ICU Screening

Management Section – you only need to complete this section if the patient screens positive for delirium



Preventing delirium

- Using a range of non-pharmacological interventions
- Treatment and care should take into account peoples individual needs and preferences
- Good communication is essential
- If the person agrees, families and carers should have the opportunity to be involved in decisions about treatment and care
- Where possible people at risk of delirium should be cared for by a team of healthcare professionals who are familiar to the person at risk

Interventions to prevent delirium

Clinical Factor	Preventive Invervention
Cognitive impairment or disorientation	Provide appropriate lighting and clear signage. A clock 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. Avoid moving people within and between wards or rooms unless absolutely necessary. Introduce cognitively stimulating activities (for example reminiscence) Facilitate regular visits from family and friends

Interventions to prevent delirium

Clinical Factor	Preventive Invervention
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 co-morbidities
Hypoxia	Assess for hypoxia and optimise saturation if necessary
Immobility or limited mobility	Encourage the person to mobilise soon after surgery (provide walking aids if needed) Encourage all people, including those unable to walk to carry out active range-of-motion exercises

Interventions to prevent delirium

Clinical Factor	Preventive Invervention
Infection	Look for and treat infection. Avoid unnecessary catheterisation. Implement infection control procedures
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 using validated tool, 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 clinical guideline 32). If the person has dentures, ensure the fit properly

How important is delirium in Critical Care?

Delirium

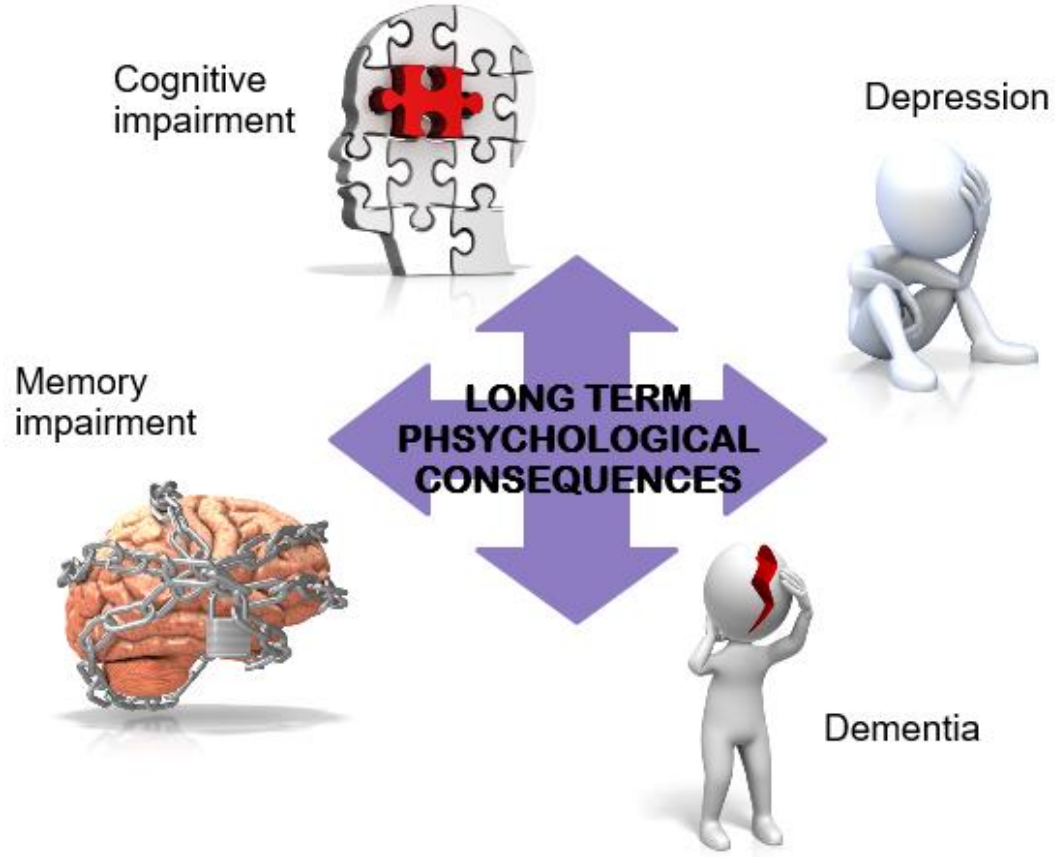
Affects 30-60% of all critically ill patients

Up to 60-80% of ventilated patients

Is undetected and untreated in up to 2/3 of patients

Results in:
Increased ventilator days and

Increased Hospital Acquired Infections



9 things we have done to make the ICU environment less likely to cause delirium

1. Medication review, delirium assessment and patient passport are completed
2. Personal belongings and items to provide mental stimulation are available
3. Staff members interact and orientate the patient to time, place and events
4. A clock displaying current time and date
5. The patient has a rehabilitation and mobilisation plan
6. There is natural daylight to orientate the patient to day and night time
7. Unnecessary equipment and invasive lines have been removed
8. Alarm volumes are appropriate to reduce sleep disturbances and sensory overload
9. The patient has their glasses and hearing aids to aid communication

Management of Delirium

Initial management

Ensure all interventions to prevent Delirium are maintained

- In people diagnosed with delirium, identify and manage the possible underlying cause or combination of causes
- Ensure effective communication and reorientation (for example, explaining where the person is, who they are, and what your role is) and provide reassurance for people diagnosed with delirium. Allocate a small number of key care givers who the patient is familiar with
- Consider involving family, friends and carers to help with this. Provide a suitable care environment
- Avoid moving people within and between wards or rooms unless absolutely necessary

Distressed people

- If a person with delirium is distressed or considered a risk to themselves or others and verbal and non-verbal de-escalation techniques are ineffective or inappropriate, inform medical staff who can consider giving short-term (usually for 1 week or less) haloperidol or olanzapine. Start at the lowest clinically appropriate dose and titrate cautiously according to symptoms.

Useful Links

RICON Management Flowchart
http://gmccn.org.uk/delirium

NICE Guideline (CG103) Delirium: prevention, diagnosis and management
https://www.nice.org.uk/guidance/cg103

Delirium Core Standards
http://gmccn.org.uk/delirium

GMCCN Delirium Standard Operating Procedure
http://gmccn.org.uk/delirium

ICUdelirium.co.uk
http://www.icudelirium.co.uk

ICU Delirium and Cognitive Impairment Study Group
http://gmccn.org

Summary

- Delirium is a common and serious syndrome affecting 30-60% of critically ill patients, the incidence can be higher in mechanically ventilated patients
- It can be undetected in up to two-thirds of our patients
- Delirium has serious short and long term consequences to patients
- Delirium should be actively looked for or it will be missed
- The network target is for all patients be screened for delirium at least twice daily using a validated tool and a positive screen for delirium should be actioned immediately
- Staff should be aware of the negative impact the critical care environment and clinical interventions can have on patients
- Non-pharmacological interventions should be routinely used to prevent Delirium
- Sleep hygiene is an important factor in preventing Delirium
- Pharmacological intervention are only to be used where other measures have failed