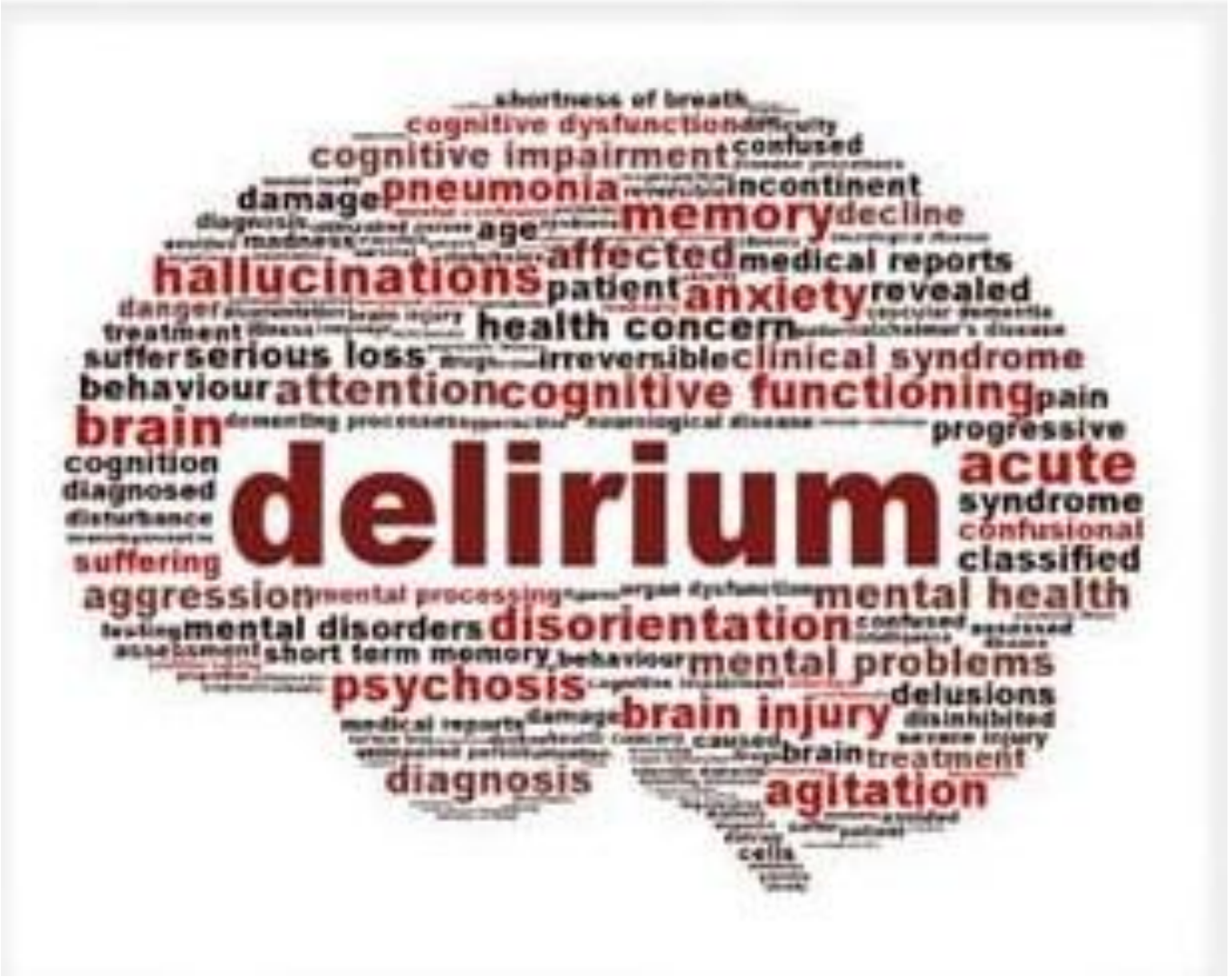


Dr Sameena Ahmed

Objectives

- What is Delirium?
- Why is it important?
- How do we recognise it?
- What causes it?
- How do we prevent it?
- How do we treat it?

What is delirium?

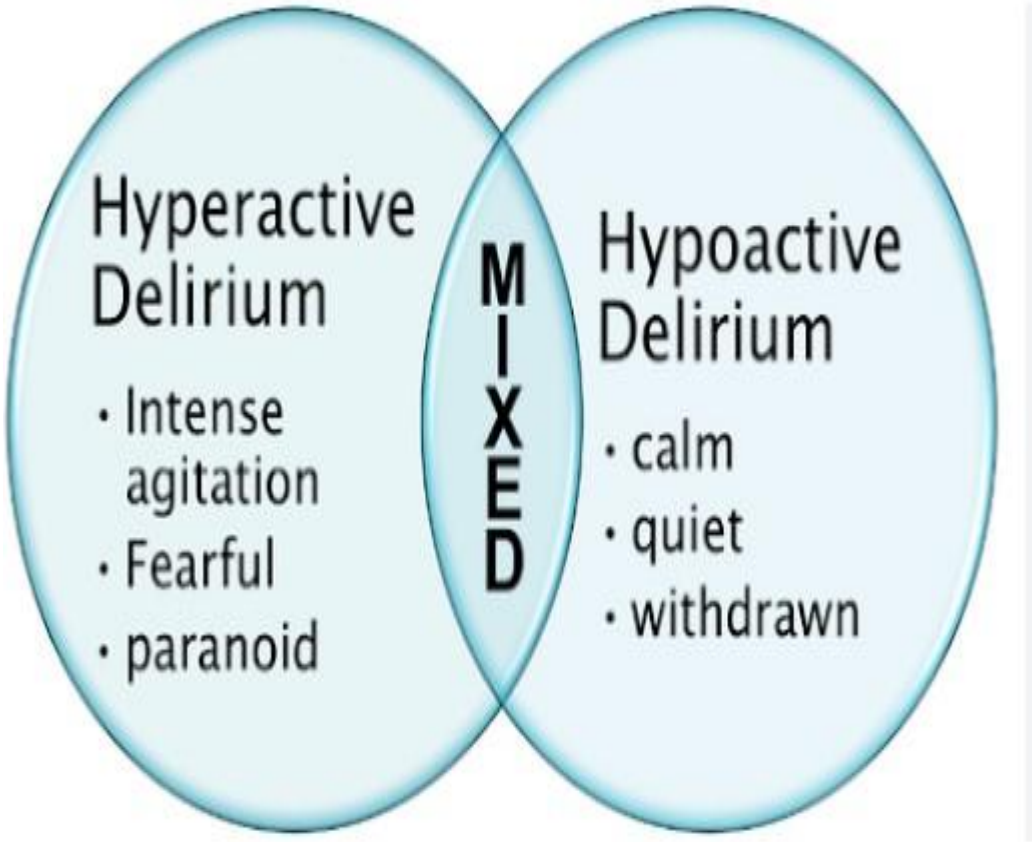
- An acute state of confusion (NICE, 2010)
  - Disturbance of consciousness and fluctuating confusion
  - Inattention
  - Disordered thinking
- Delirium is often triggered by an acute illness, surgery, injuries or adverse effects of medications.

Types of Delirium

- *Hyperactive delirium:*
- ***restlessness***, ***agitation, aggression***.

- *Hypoactive delirium:* (Most Common)
- ***sleepy***, ***withdrawn*** and ***quiet***, difficult to recognise.

- *Mixed! Hypo-Hyperactive Delirium*



Why is it important?

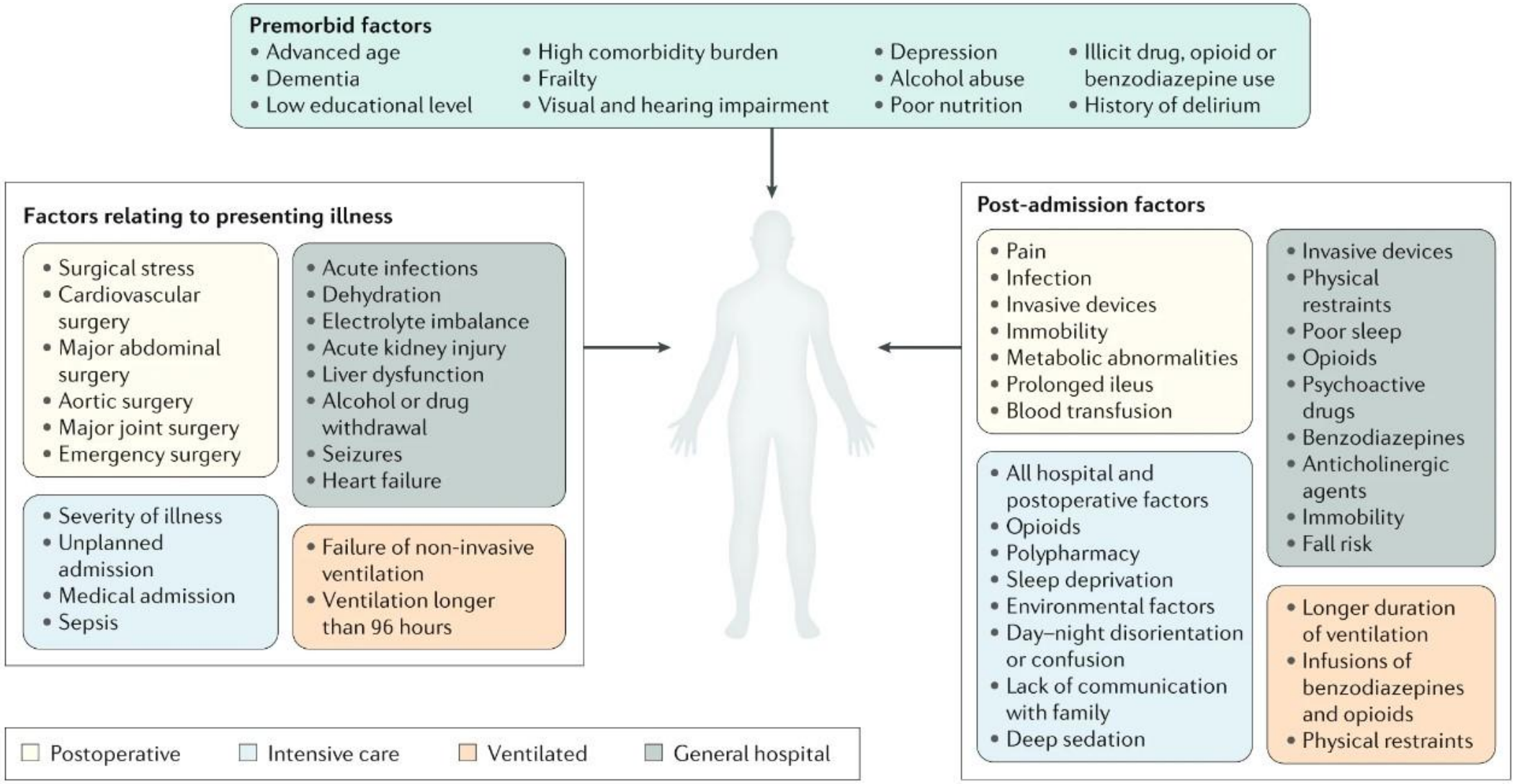
- ***Prevalence! 33 - 85%*** of people in ICU develop delirium.
- It increases mortality three fold!
- Delirium is associated with poor short and long term outcomes.
- It increases risk of long hospital stays.
- It causes distress to patients, families and staff!
- It can be difficult to manage.

- ***Approximately half of all episodes of delirium are preventable!***

What Causes Delirium?

PINCHME mnemonic
to help identify potential causes of delirium

- **P**ain
- **I**nfection
- **N**utrition
- **C**onstipation
- **H**ydration
- **M**edication
- **E**nvironment



How do we recognise Delirium?

- Symptom recognition

- Regular CAM ICU assessments!

Symptoms:

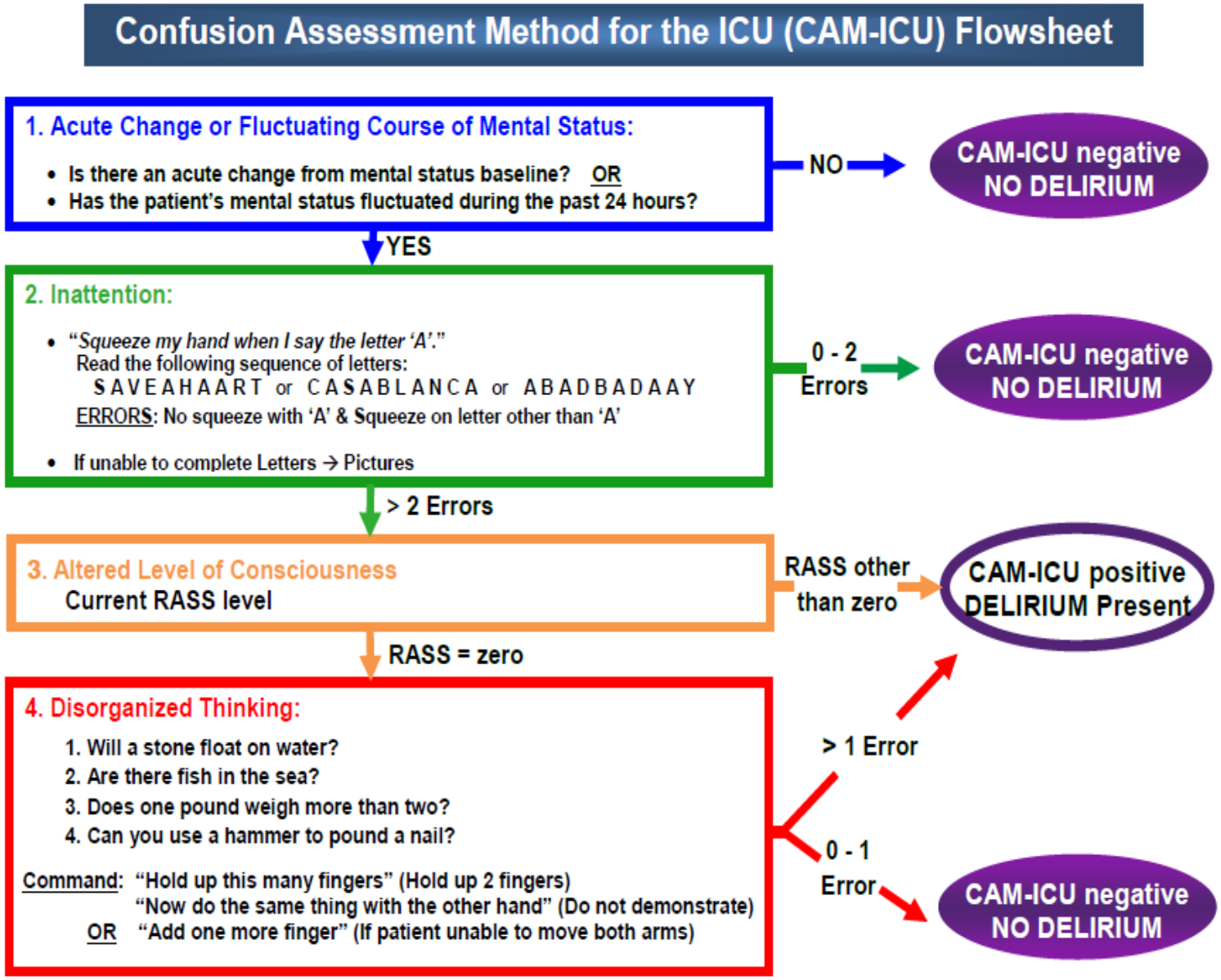
- Less aware of surroundings.
- Reduced ability to orientate to surroundings.
- Unable to follow conversation/ speak clearly.
- Paranoia.
- Vivid dreams that may continue when someone wakes up.
- Auditory hallucinations.
- Visual hallucinations.
- Concerned that other people are trying to harm them.
- Sleeping during the day and waking up during the night.
- Have moods that quickly change.
- Confusion at particular times: evenings and nights.

CAM-ICU Score

It takes 2 minutes to do

Fast access: *on the White board by your bed space*

It is evidence based.



Demonstrate how to do the CAM-ICU screening test

- This is recommend in all patients with a RASS score of >-3.
- Spontaneously breathing; NIV support; ventilated either via ETT or a tracheostomy.
  - Any patients who can open their eyes and respond to voice commands should have the CAM ICU test done at least once per shift.
- The findings should be recorded in the patient's medical notes.

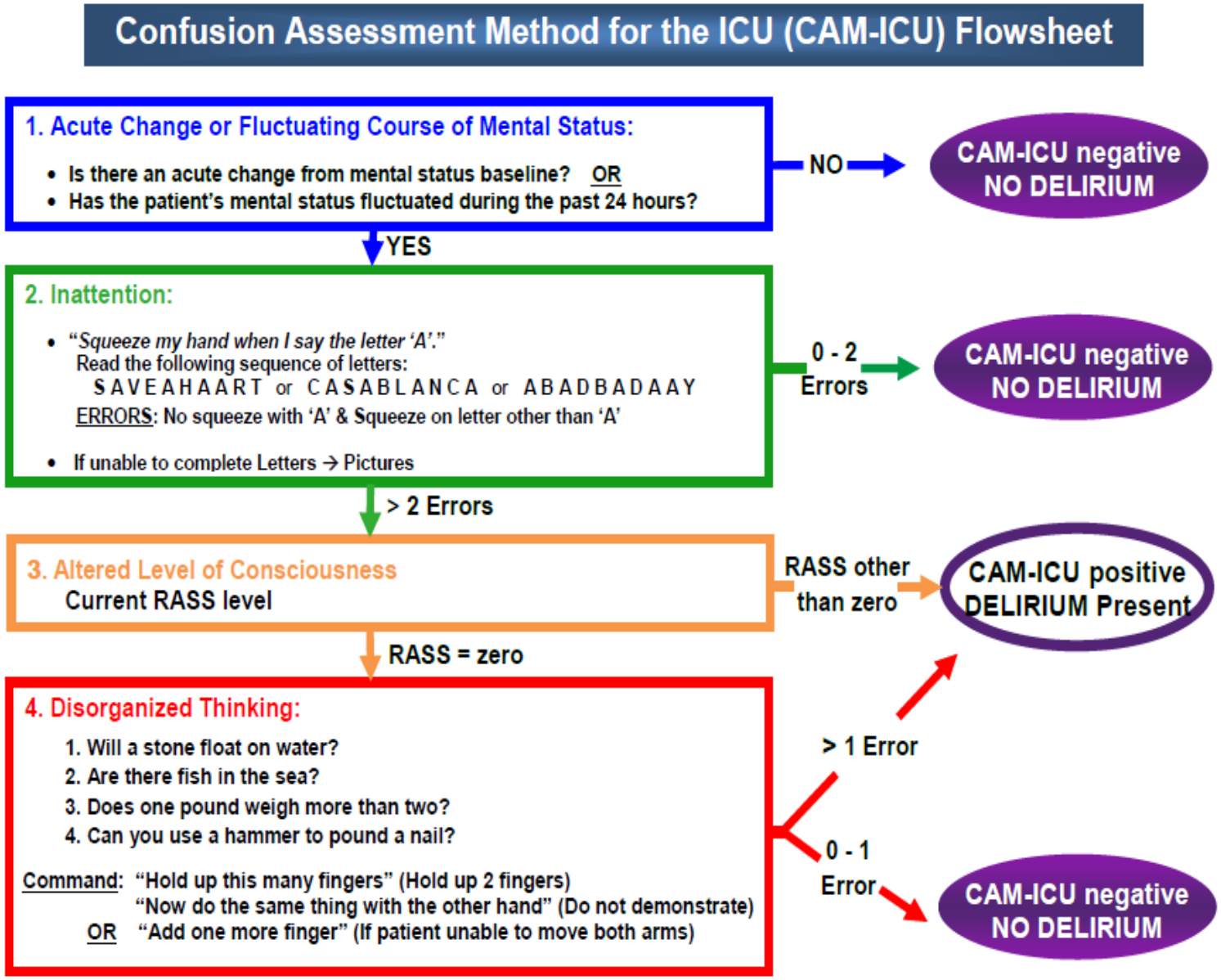
- Some patients will only require the first part and some will require both 1st and 2nd parts.
- Start the test by stating the reason as: "Hello my name is ------ and I will test to see how clearly you are able to think".
- I would like to hold your hand and ask you to squeeze my hand when I say the letter "A".
- "There are 10 letters and only squeeze my hand when I say the letter "A".
- C-A S-A B-L-A-N-C-A.

CAM-ICU Score

It takes 2 minutes to do

Fast access: *on the White board by your bed space*

It is evidence based.



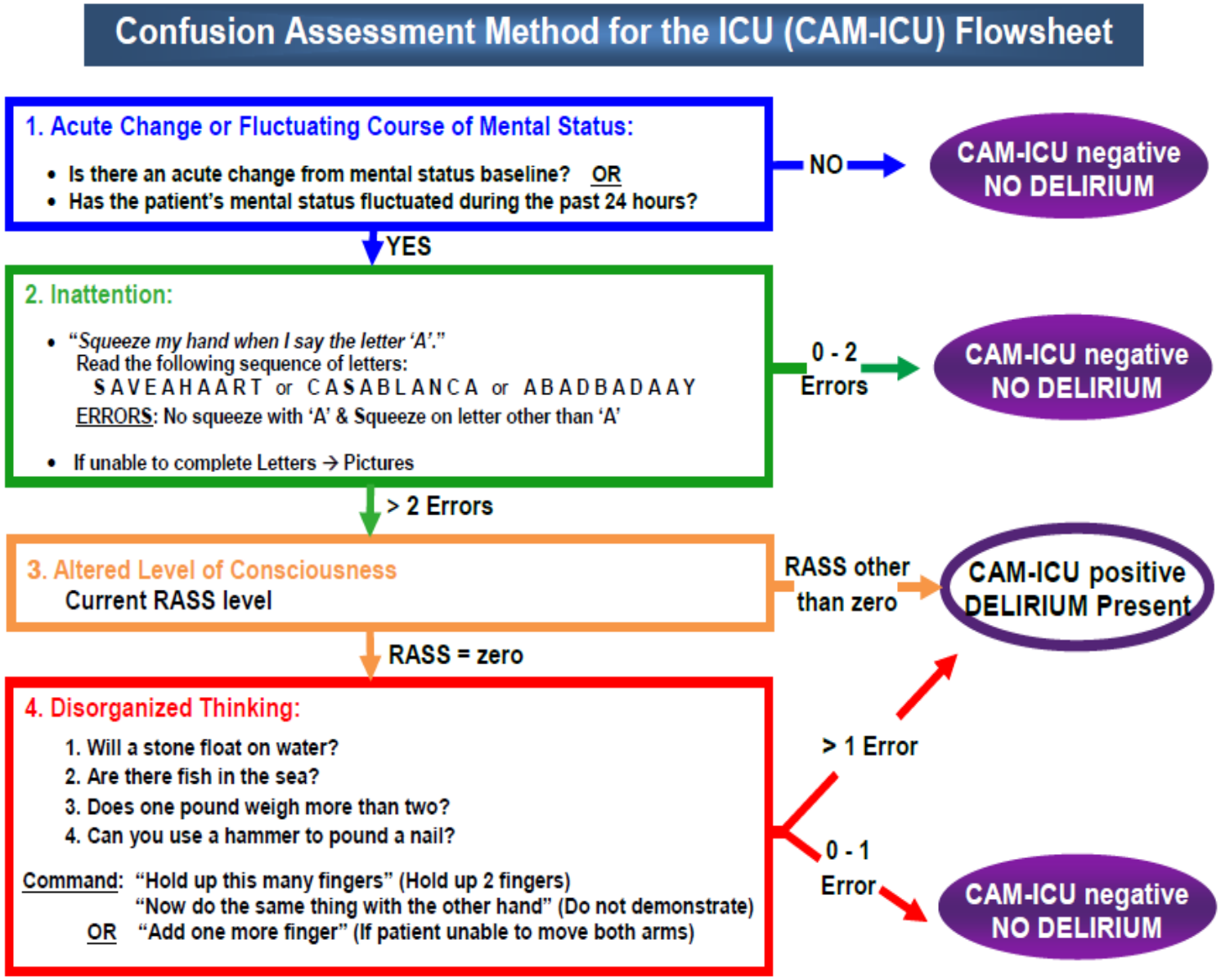
- 2nd part of the test:
- Ask the patient 4 simple questions.
- “Please answer as a yes or no by either nodding or shaking your head”.
- “Are there fish in the sea? Will a stone float on water? Is one pound heavier than two pounds? Do you use a hammer to pound a nail?”
- Finally, ask the patient to raise 2 finders on one hand and same with the other hand.
- OR if the other hand is tied up with drips / lines/ immobile etc. Ask the patient to raise another finger on the same hand

CAM-ICU Score

It takes 2 minutes to do

Fast access: *on the White board by your bed space*

It is evidence based.



Results

- 1st part of the test = inattention.
- Patient squeezes correctly on all the letter “A” in the 10 letter work sequence.
- Mistake =
  - If the patient squeezes on a non-“A” letter
  - if the patient doesn’t squeeze on the letter “A”,

The patient is allowed 2 or less mistakes.

2 or less mistakes and the RASS = 0, **CAM ICU negative and not delirious**.

More than 2 mistakes (3, 4, 5 etc.) **and** the patient has an altered mental status, the patient is **CAM ICU positive and delirium is present**.

- More than 2 mistakes (3, 4, 5 etc.) **and** RASS score is 0 only then do you need to proceed with the 2nd part of the test.
- 2nd part of the test = disoriented thinking.
- This consists of 5 element.
- There are 4 questions and 1 command.
  - If the patient gets either element or command wrong
  - OR patient is unable to complete the command
- **Disoriented thinking.**
- **Inattention + disoriented thinking = CAM ICU positive score and the patient has delirium.**

Delirium or Psychosis?

Feature	Delirium	Psychosis Due to a Psychiatric Disorder
Orientation	Confused about current time, date, place, or identity	Usually, aware of time, date, place, and identity
Attention	Greatly impaired	Unaffected
Memory for recent events	Lost	Retained
Ability to calculate	Unable to do simple calculations	Retained
Hallucinations	If present, mostly visual or involving touch	If present, mostly auditory
Other disorders	Often present and may be serious	History of previous psychiatric disturbances
Drug use	Often, evidence of recent drug use	Not necessarily involved

In these topics

Delirium >

If the CAM-ICU score is normal, consider Acute Psychosis

Acute psychosis with agitation = 1st step maintain the safety of the patient and those around them

Characteristics	Delirium	Dementia	Psychosis
Onset	Sudden	Insidious	Sudden
Course over 24hr`s.	Fluctuating with nocturnal exacertrabtions	Stable	Stable
Consciousness Attention	Reduced Globally disordered	Clear Normal except in severe cases	Clear May be disordered
Cognition	Globally disordered	Globally impaired	May be Selectively impaired
Hallucinations	Visual or visual and auditory	Often absent	Auditory
Delusions	Fleeting, poorly systematized	Often absent	Sustained and systematized

- Antipsychotic medications are mainstay of treatment for acute psychosis.
  - Use if there are positive symptoms of psychosis (eg, hallucinations, delusions, and agitation)
  - Not effective for negative symptoms (eg, apathy and amotivation)
- Atypical antipsychotics
  - 1st generation antipsychotics (haloperidol,)
  - Most common used agents
  - 2nd generation antipsychotics (risperidone, olanzapine)

How do we prevent it?

- Treat Illnesses as much as possible.
- Adjust Iatrogenic causes (What we do) as much as possible!
- Use a Targeted RASS system: so we reduce sedation!
- Delirium is not always preventable!

Targeted RASS=Less sedation lowing the risk of delirium.

RED (RASS -3/-5)	Clinical condition requires deeper level of sedation (RASS -3/-5) to facilitate resuscitation, interventions and stabilisation. Unstable patient with open chest, very high inotropes, poor ABG with high FiO2, iv muscle relaxant infusions.
AMBER (RASS -2/-1)	Clinical condition requires moderate level of sedation (RASS -2/-1) to enable continued stabilisation and optimisation of clinical condition. Stable ventilated patients postop, stable weaning patients on ETT or trachy
GREEN (RASS> -1)	Clinical condition ready for sedation to be stopped and trail of extubation.

Non pharmacological methods = Prevention is better than cure

- **Avoid moving people within and between wards or rooms unless absolutely**
- **Address cognitive impairment and/or disorientation by:**
  - providing appropriate lighting and clear signage;
  - a clock and a calendar should also be easily visible to the person at risk
  - talking to the person to reorientation them by explaining where they are, who they are and what your role is
  - introducing cognitively stimulating activities (for example, reminiscence)
- **Facilitating regular visits from family and friends.**
- **Address nutrition, dehydration and/or constipation**
  - Adequate fluid intake to prevent dehydration
  - Ensure drinks if food intake is poor
  - consider intravenous fluids if necessary
- **Assess for hypoxia and optimise oxygen saturation**
- **Address infection by:**
  - looking for and treating infection
  - avoiding unnecessary catheterisation
  - implementing infection control procedures in line with the NICE guideline on healthcare-associated infections.
- **Address immobility or limited mobility by**:
  - Encourage people to mobilise soon after surgery
  - Encourage all people, including those unable to walk, to carry out active range of motion exercises.
- **Address pain by**:
  - Regular pain score + non-verbal signs of pain (learning difficulties, dementia, ventilated patients)
  - Appropriate pain management.
- **Regular medication review for people taking multiple drugs**.
- **Address sensory impairment by**:
  - resolving any reversible cause of the impairment
  - ensuring hearing and visual aids are available to and used correctly
- **Use verbal and non-verbal techniques to de-escalate the situation**
- **Promote good sleep patterns and sleep hygiene by**:
  - avoiding nursing or medical procedures during sleeping hours, if possible
  - scheduling medication rounds to avoid disturbing sleep
  - reducing noise to a minimum during sleep periods.

Pharmacological Treatment = to keep patient and staff safe

- Sedation can cause delirium! Aim for a Low RASS with minimal sedation
- Daily sedation holds and spontaneous breathing trials
- Look for and treat pain
- Consider Alpha Agonists: Clonidine/ Dexmedetomidine
- Avoid Benzodiazepines
- Treat withdrawal from alcohol and tobacco
- Treat underlying illnesses – Sepsis, metabolic, Anaemia, Pain
- Systematic review of five studies showed that quetiapine reduced the duration of delirium (1 day vs 4.5 days) compared to placebo in 36 patients.

- Pharmacological treatments remain controversial.
  - Risk Vs benefit of side effects of the treatment.
  - Multiple small and not so robust trials for the treatment of delirium.
  - Evidence is controversial and sometimes contradictory.
  - Not enough evidence to change current practice but this is a developing area of research.
- Antipsychotics such as Quetiapine
  - Negative side-effects on cognitive function
  - over-sedation
  - lead to a prolonged QT interval and Torsade de Points.
- A small recent trial with a one off dose of intra-operative dexamethasone has shown to lower incidence of delirium in Cardiac Surgery.
- Again this is not enough evidence to change practice as yet – further more robust evidence needs to be presented.

How patients and family said they wanted to be looked after …

- Ensure patient and staff safety + monitoring
- Communicate with MDT.
- Consistency and sharing of knowledge between staff.
- Stay calm - including family members
- Humour.
- Flexible visiting.
- Reassurance delirium is not permanent.
- Use patient dairies

SYSTEMATIC DELIRIUM SCREENING AND PREVENTION (part of Enhanced Recovery after Cardiac Surgery)

- Delirium after cardiac surgery = 20% - 50% of patients
- Associated with reduced in-hospital and long-term survival, freedom from hospital readmission, and cognitive and functional recovery.
- Early detection should from the preoperative phase
  - identifying key risk factors for the development of delirium.
  - Modify medications if applicable
  - Correct smoking and alcohol intake + appropriate support
- Postoperative systematic delirium screening tool in the ICU should be incorporated as part of routine monitoring at least once per nursing shift. Commonly used methods are:
  - **Confusion Assessment Method for the Intensive Care Unit**
  - Intensive Care Unit Delirium Screening Checklist
- Determine the underlying cause (ie, pain, hypoxemia, low cardiac output, and sepsis) and initiate appropriate treatment.
- Several RCT do not support the use of prophylactic medicines, such as clonidine or antipsychotic agents, to reduce the occurrence of delirium in the ICU.
- Non-pharmacologic strategies remain as the first-line component of management and should consider the implementation of the ICU **"ABCDEF liberation bundle"** (A: assess, prevent, and manage pain; B: Both spontaneous awakening and spontaneous breathing trials; C: Choice of analgesia and sedation; D: Delirium: assess, prevent, and manage; E: Early mobility and exercise; F: Family engagement and empowerment) in the postoperative cardiac surgery ICU.
- A multicentre RCT looked at multicomponent family support intervention and was associated with higher ratings of the quality of communication and a shorter ICU length of stay; however, this requires additional study in the postoperative cardiac surgery patient.284
- **Summary Statement: Routine use of a systematic delirium screening tool and non-pharmacologic strategies aid the identification and prevention of post-operative delirium. Quality of Evidence: High**

Implementing Delirium screening and management in CITU

- Plan, Implement, Assess, Evaluate
- How can we as a CITU team justify management plans, treatment plans, administration of medications if a validated assessment has not been used to diagnose the condition?
  - “Bed 2 has delirium” …said who, how do you know?
  - The validated assessment tool CAM-ICU confirms diagnosis and justifies subsequent treatments.
- Most of the non-pharmacological prevention and management points are beneficial to the patient for more than just delirium centred.
- Optimisation can increase patient recovery, patient flow and patient experience.
- Cost effective!
- Please help us work as a team on how best we can implement this high impact measure

Thank You