ICU DELIRIUM

ICU NEURO NUGGETS
Dr Hayden Stephenson, 2021

= **Acute disorder of attention, concentration and awareness that fluctuates over time**

Patients with delirium may have:

- Disordered thinking
- Reduced attention
- Abnormal sleep/wake cycle
- Abnormal psychomotor activity
- Abnormal perceptions
- Abnormal emotional behaviour

DELIRIUM SUBTYPES:

- ➔ **Hyperactive:** confused, agitation, combative, paranoid behaviour, hallucinations
- ➔ **Hypoactive delirium:** inattention, stupor, withdrawn, can be mistaken for depression and frequently under recognised
- ➔ **Mixed (64%)**

ICU delirium is estimated to occur in up to 69% in ventilated patients.

RISK FACTORS:

Patient: advancing age, medical comorbidities, baseline cognitive impairment, psychiatric illness, alcohol abuse, substance misuse

Illness: High APACHE II score, sepsis, hypoxia, metabolic derangement (acidosis, sodium and calcium imbalance), surgery, trauma, constipation, dehydration

Iatrogenic: disturbed sleep/wake cycle, sedative meds (particularly benzodiazepines), anticholinergics, environmental noise, painful stimulation

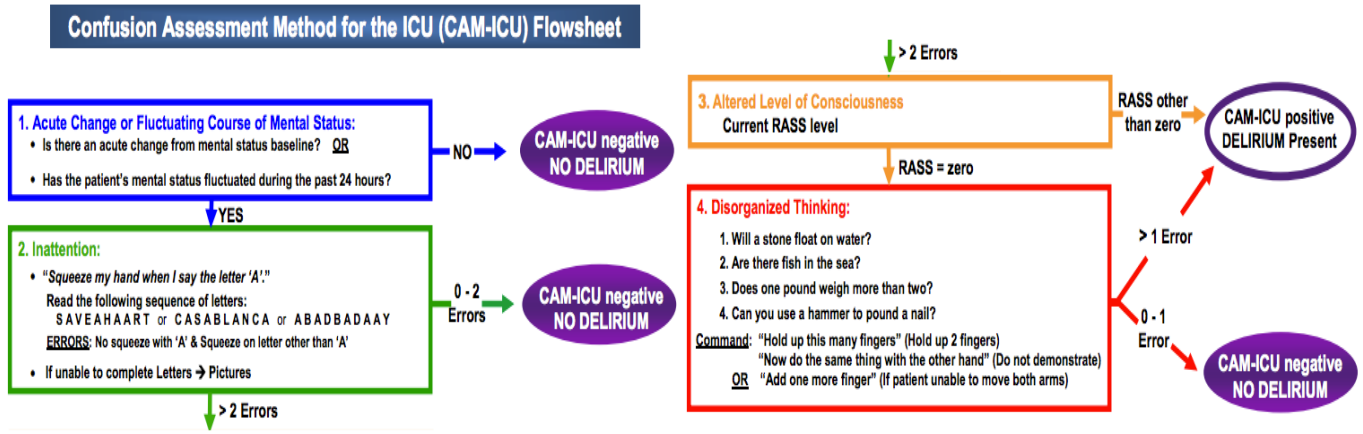
CONSEQUENCES OF DELIRIUM:

Independent predictor of death and long-term cognitive decline. Results in a three-fold risk of requiring discharge to long-term care. Increased ICU length of stay (**1.4 fold**), increased hospital LOS, increased duration of MV, increased mortality (3-fold at 90 days)

Increased risk of adverse events including accidental device removal and harm to the patient

Increased risk of PTSD and risk of long-term cognitive impairment.

Pathophysiology: neurotransmitter imbalance (reduced acetylcholine, increased dopamine); Cerebral microvasc dysfunction (inflammatory mediators, global oxidative failure); neuroinflammation with TNF-alpha



NON-PHARMACOLOGICAL MANAGEMENT:

- ➔ **Multifactorial approach**
- ➔ Avoid/minimise triggers wherever possible
- ➔ Early mobilisation
- ➔ Sleep hygiene, sleep-wake cycle, reduction in night noise/light, earplugs, eye masks
- ➔ Ensure glasses or hearing aids worn
- ➔ Increased exposure to daylight
- ➔ Cognitive reorientations, family presence
- ➔ Spontaneous breathing modes
- ➔ Avoid invasive devices where possible

PHARMACOLOGICAL MANAGEMENT:

- ➔ Minimise pain with analgesics (ensuring not to overtreat)
- ➔ Minimise or avoid triggers (eg benzodiazepines)
- ➔ Utilise antipsychotics where required (note no evidence for prophylactic antipsychotics)
- ➔ Haloperidol (eg 2.5-5mg)
- ➔ Clonidine/Dexmedetomidine
- ➔ Quetiapine/Olanzapine/Risperidone
- ➔ Treat withdrawal state (alcohol/nicotine/drugs)
- ➔ *Benzodiazepines ONLY for alcohol withdrawal*

OH's Intensive Care Manual 7th Ed 2014 pages 611-616

Youtube videos: performing CAM-ICU testing