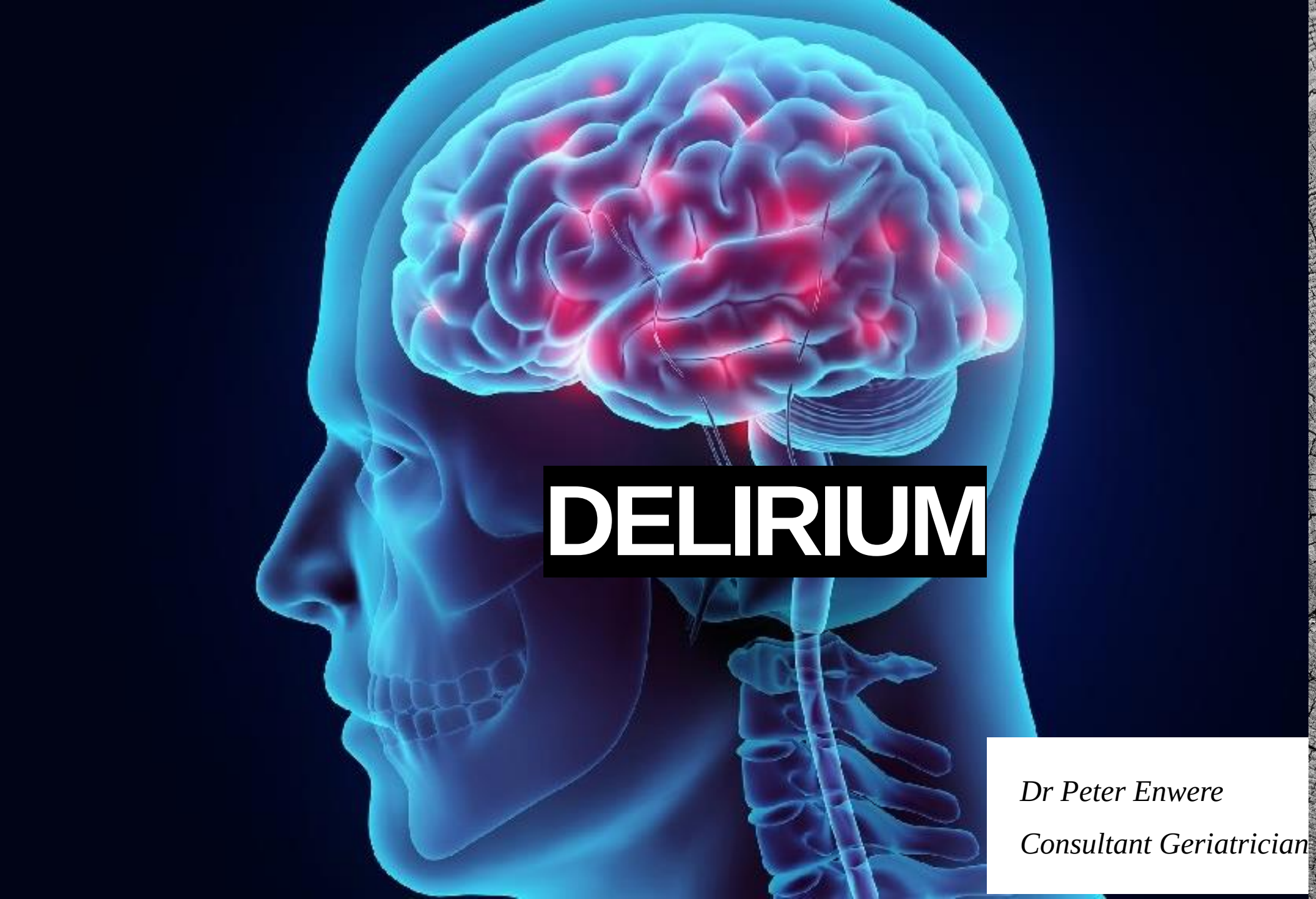


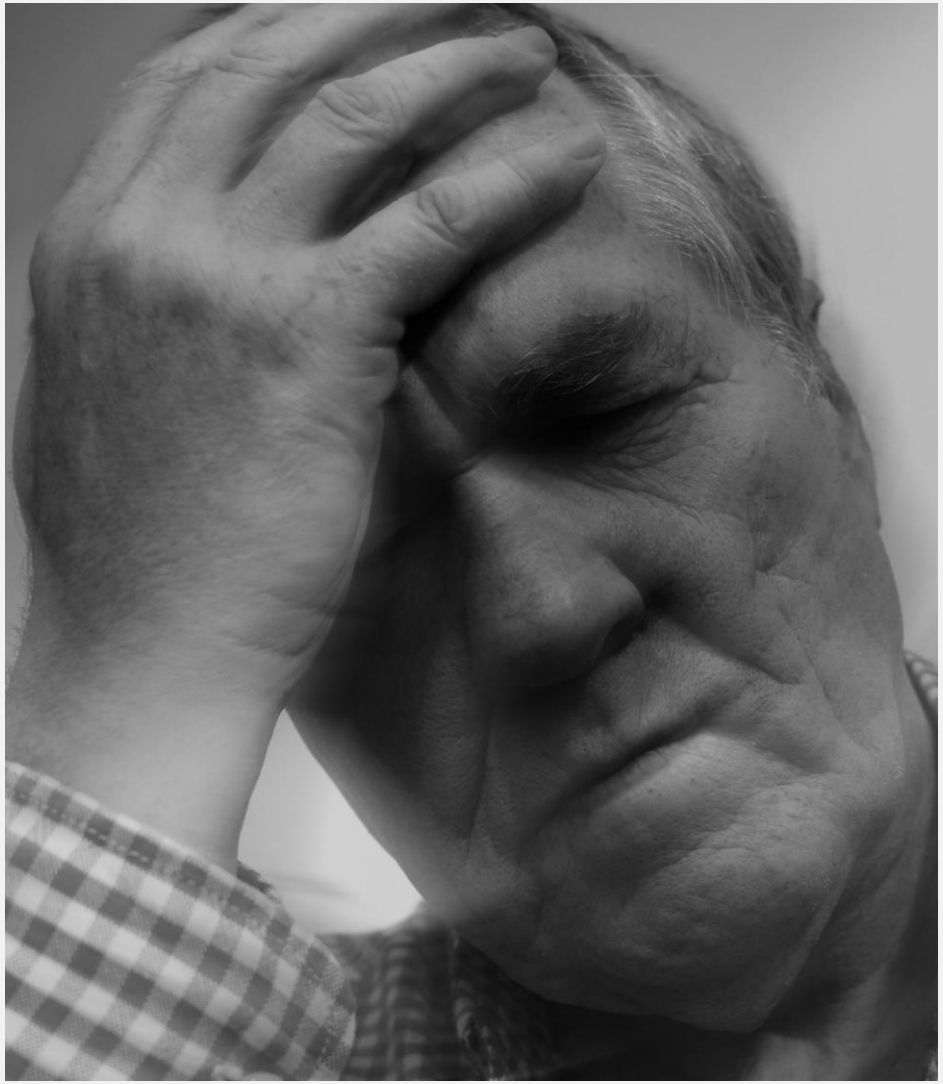
DELIRIUM

Dr Peter Enwere

Consultant Geriatrician

WHAT, WHY, WHO, HOW

- What is delirium?
- Why is it important?
- What causes it?
- Who is at risk?
- How can we prevent it?
- How can we spot it?
- How can we stop it?
- Useful resources



WHAT IS DELIRIUM?

- Delirium is a neuropsychiatric syndrome characterized by acute or subacute fluctuating disturbances of consciousness which may include:

- Disorientation
- Inattention
- Disordered thinking
- Cognitive impairment
- Emotional lability
- Hallucinations or delusions
- Sleep-wake cycle disturbance

WHY IS DELIRIUM IMPORTANT?

IT KILLS

Delirium doubles the death rate in patients aged >65yrs

In hospital mortality rises from 6% to 11%

IT IS COMMON

Delirium affects about 30% of patients in the general hospital, & 10% of nursing home residents

IT IS UNDERDIAGNOSED

Only detected in about 50% of patients

IT IS DAMAGING

Delirium slows recovery, can result in lasting cognitive impairment and can be highly traumatic for the patient

IT IS EXPENSIVE

Delirium lengthens hospital stay and increases treatment costs

WHAT CAUSES DELIRIUM?

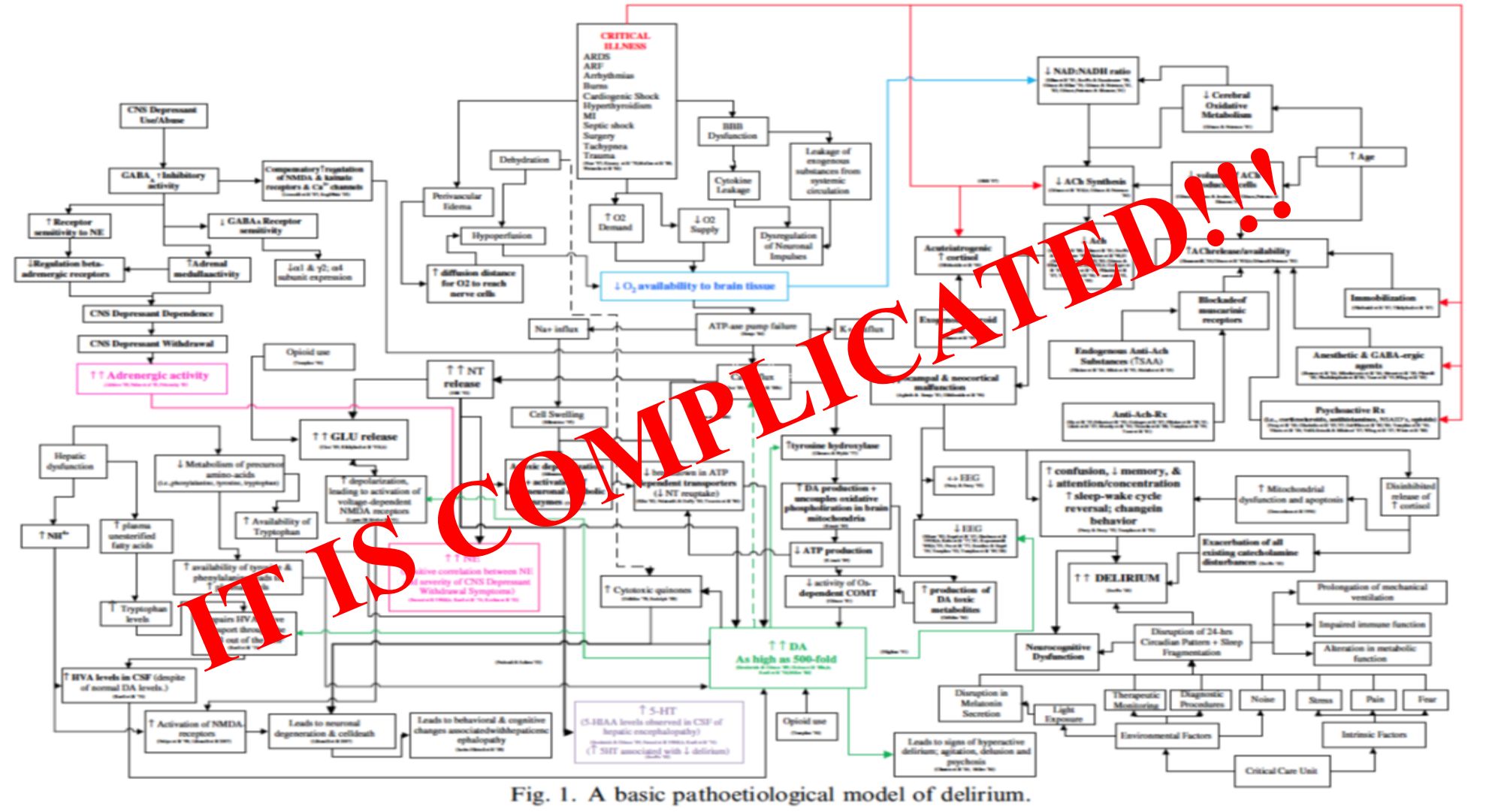
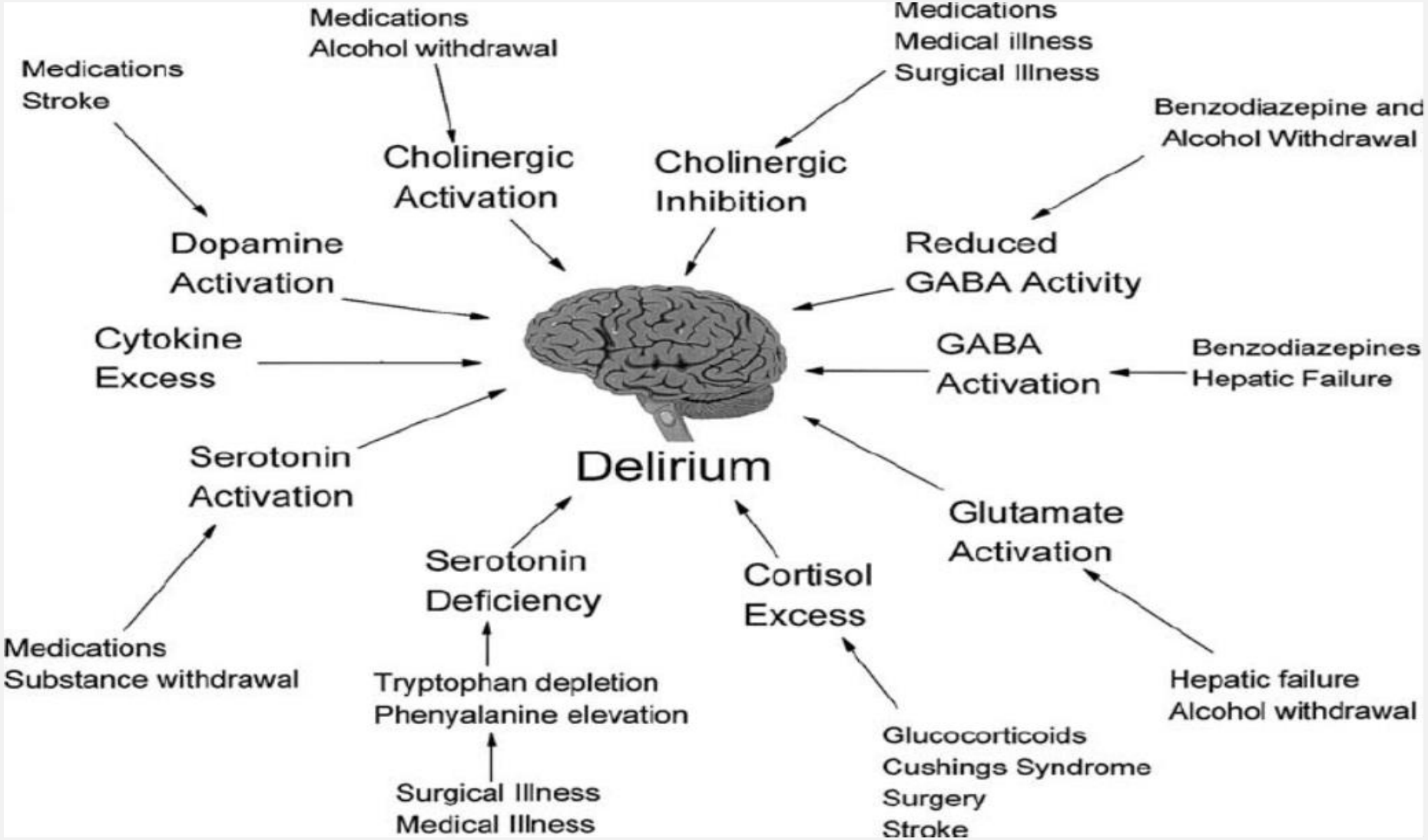


Fig. 1. A basic pathoetiological model of delirium.

Maldonado, J.R. (2013) Neuropathogenesis of Delirium: Review of Current Etiologic Theories and Common Pathways *The American Journal of Geriatric Psychiatry* 21(12) pp 1190-1222

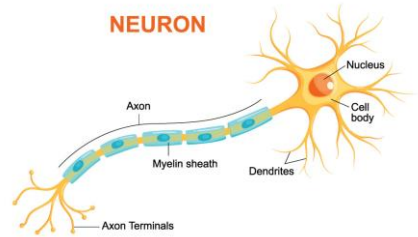
PUT MORE SIMPLY…

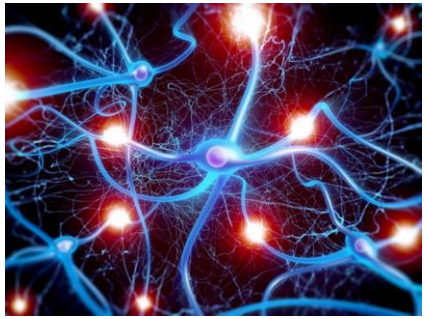


Crosby et al (2006) Serum Biomarkers for Delirium The Journals of Gerontology Series A: Biological Sciences and Medical Sciences December 2006

BASIC PATHOPHYSIOLOGY

- No single cause
- Several different sets of biological factors result in disruption of large-scale neuronal networks
- Different causes operate by different mechanisms
- Most frequently linked with cholinergic deficiency or dopamine excess





TYPES OF DELIRIUM

Hyperactive delirium:

Probably the most easily recognized type

restlessness (for example, pacing), agitation, rapid mood changes or hallucinations

Hypoactive delirium:

Often goes undetected

inactivity or reduced activity, sluggishness, abnormal drowsiness

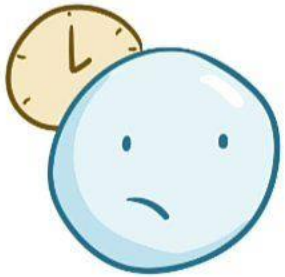
Mixed delirium:

includes both hyperactive and hypoactive symptoms

may quickly switch back and forth between states

DELIRIUM

ABRUPT DECLINE in MENTAL FUNCTION



MEMORY

fluctuates from day-to-day

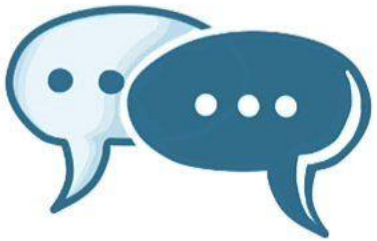
last for hours, days, or weeks

PERSONALITY

ORIENTATION

PERCEPTION

BEHAVIOR



LANGUAGE

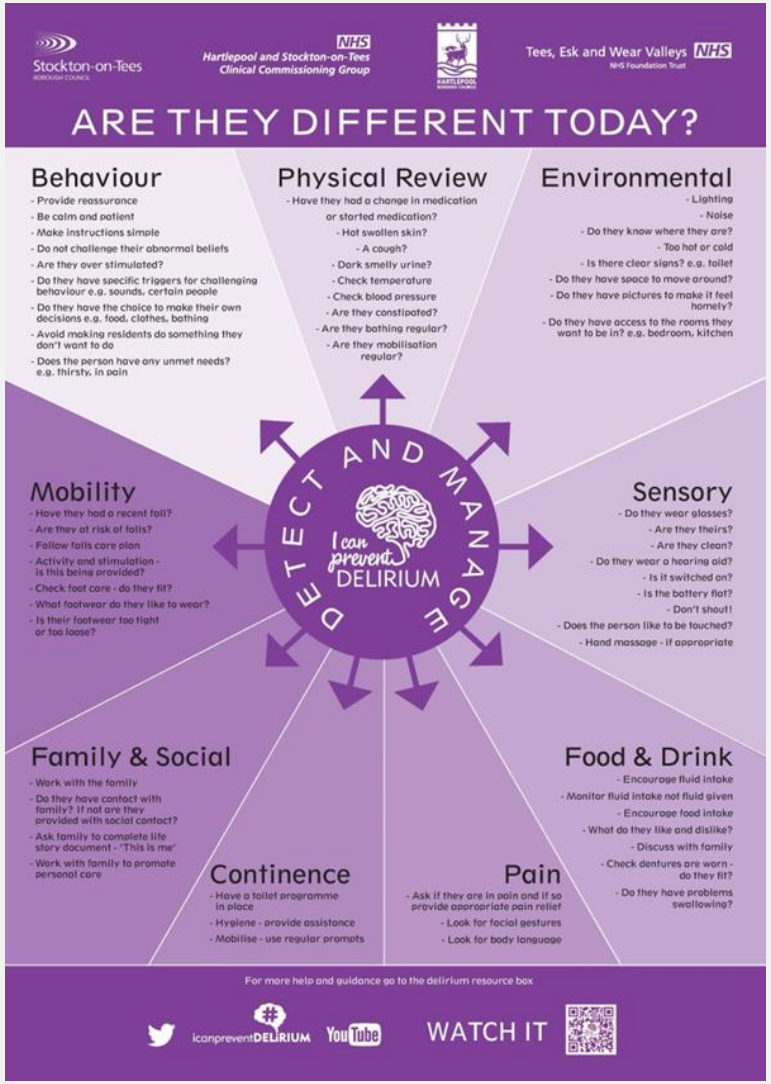
WHO IS AT RISK?

- Age 75+
- Dementia
- Sensory impairment
- Malnutrition
- Recent surgery
- Hip fracture
- Polypharmacy
- Immobility
- Comorbidity

HOW CAN WE PREVENT DELIRIUM?

- Mobilise
- Hydrate
- Ensure adequate nutrition
- Encourage sleep hygiene
- Engage in structured activities
- Correct sensory deficits
- Make sure people have their glasses/hearing aids!

HOW CAN WE IDENTIFY DELIRIUM?



- Always be suspicious especially if ***risk factors*** present
- Acute change in behaviour – are they different today?
- Listen to family/friends
- Remember hypoactive delirium
- Use validated screening tool (e.g. 4AT)

HISTORY TAKING

- Collateral information
- Baseline level of functioning
- Onset and course of confusion
- Previous episode?
- Any diagnosis of dementia?
- Sensory deficits – hearing, sight, speech
- Symptoms suggestive of underlying causes
- pre-admission social circumstances / care package
- Full drug history including non-prescribed drugs
- Alcohol history

EXAMINATION

- Full physical examination inc. neurological as far as possible

(if they can comply with a full neuro, delirium is unlikely!)

- Consciousness level
- Evidence of pyrexia/fever
- Evidence of alcohol/drug abuse or withdrawal
- Screen using a standardised tool **4AT**

[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)	0
Mild sleepiness for <10 seconds after waking, then normal	0
Clearly abnormal	4

[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.	
Achieves 7 months or more correctly	0
Starts but scores < 7 months / refuses to start	1
Untestable (cannot start because unwell, drowsy, inattentive)	2

[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 the last 24 hours.	
No	0
Yes	4

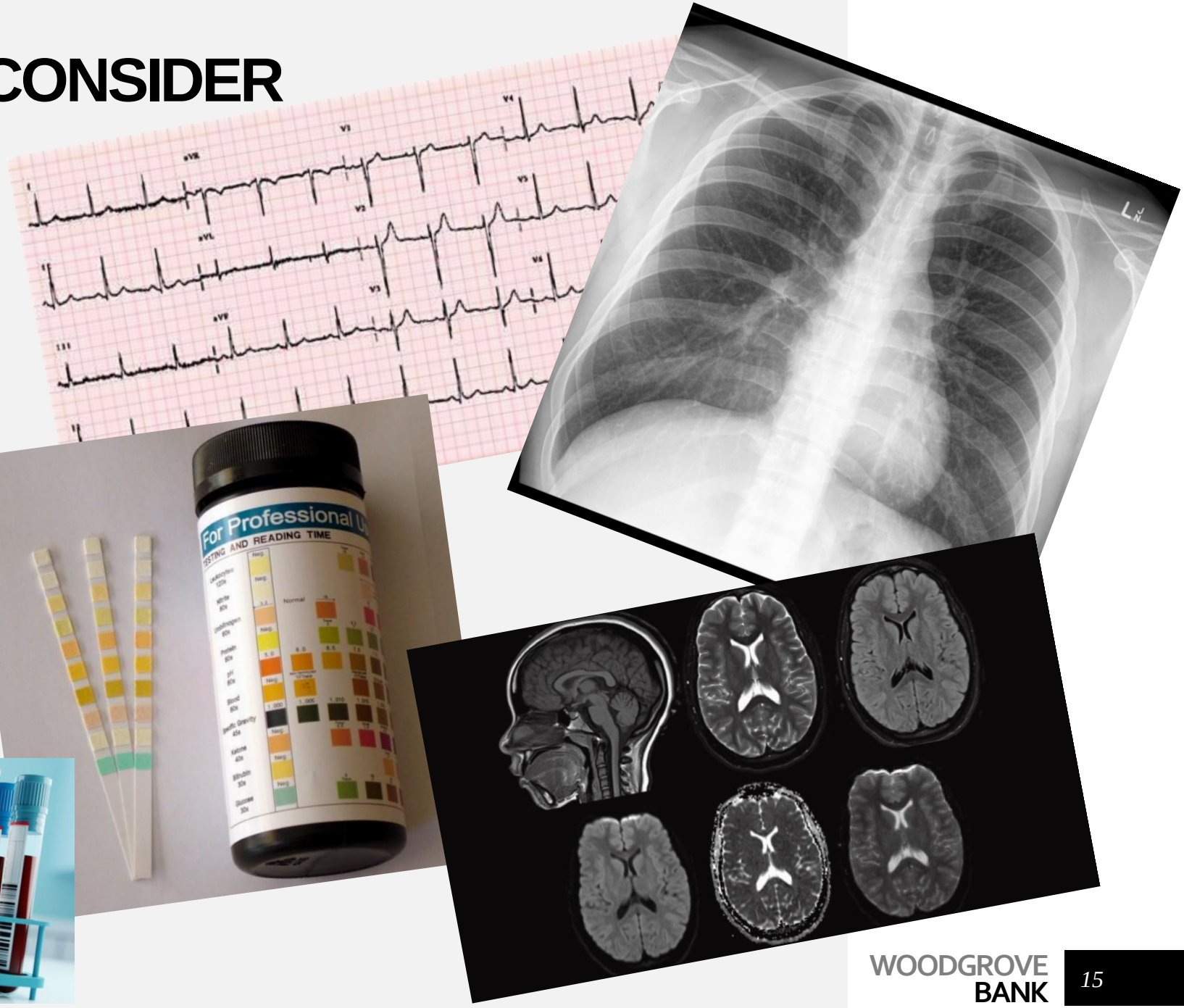
4AT score
4 or above: possible delirium +/- cognitive impairment
1-3: possible cognitive impairment
0: delirium or severe cognitive impairment unlikely
(but delirium still possible if [4] information incomplete)

INVESTIGATIONS TO CONSIDER

- Comprehensive bloods

(FBC, U&E, ESR, CRP, LFT, Calcium, Magnesium, phosphate, TSH/T3/T4, B12, Folate, Ferritin, Cholesterol, Glucose, vit.D level)

- Blood culture
- Urinalysis / MSU
- Arterial blood gas
- Lumbar Puncture
- ECG
- Chest X-ray/Abdominal X-ray
- CT or MRI brain scan



DIFFERENTIAL DIAGNOSIS

Delirium vs dementia

FEATURE	DELIRIUM	DEMENTIA
Onset	abrupt/sub-acute	insidious
Course	fluctuating	slow progression
Duration	hours-weeks	months-years
Alertness	abnorm high or low	typically normal
Sleep-wake	disrupted	typically normal
Attention	**impaired**	**relatively normal**
Orientation	impaired	intact in early dement.
Working mem	impaired	intact in early dement.
Episodic mem	impaired	impaired
Thought	disorganised, delus.	impoverished
Speech	slow/rapid, incoh.	word-finding difficulty
Perception	illusn/halln common	us. intact in early dem.
Behaviour	withdrawn/agitated	varies: oft. intact early

HOW DO WE MANAGE IT?

- May need hospital admission if presenting to ED
- Systematically identify and treat the underlying causes – remembering most common multifactorial!
- Optimise physiology
- Where possible withdraw or reduce any drugs causing confusion (i.e. drugs with high anticholinergic burden - http://www.acbcalc.com)
- Non-pharmacological management strategies
- Communicate with family, explain diagnosis and support
- Monitor for recovery and refer for specialist input if not improving

NON-PHARMACOLOGICAL MEASURES

- Repeated reassurance, ideally by the same person
- Sensory aids where necessary (glasses, hearing aids)
- Repeated orientation (clocks, calendars, newspapers, familiar objects)
- Minimal distractions, calm environment
- Avoid multiple transfers
- Good lighting levels

DOES MEDICATION HELP?

- Very limited evidence for antipsychotics - more research needed. No evidence for benzodiazepines

- Sometimes necessary to reduce agitation to keep patient and others safe but should be last resort

- NICE guidelines recommend low dose short term Haloperidol as last resort (avoid Haloperidol if the person has Parkinson's disease or Lewy Body type dementia)

PHARMACOLOGICAL MANAGEMENT

- **ONLY !** if non-pharmacological interventions have not worked and the patient is a risk to themselves and to others.
- If the patient is paranoid/ restless/ aggressive/ delusional/ agitated can consider medication as last resort
- Always prescribe medication as a **STAT dose ONLY** following careful assessment/consideration of the patient involved
- If a patient has had more than 2 dose of antipsychotic medication and not responding to treatment, please do liaise with the on call old age psychiatric team or a geriatrician.
-
- **Beware Parkinsonian patients, Lewy Body dementia** (antipsychotics are contraindicated) or prolonged QTc interval (**if QTc>440mS seek advice**)

THE GOLDEN RULES

- Review medication every 24 hours
- Start with low doses
- Discontinue sedation as soon as possible
- Identify and promptly initiate treatment to reverse delirium cause
- Avoid polypharmacy

MEDICOLEGAL ASPECTS

- Generally, patients can be managed under the MCA with urgent DOLS authorisation
- Grey area with the Mental Health Act
- Consideration should be given to MHA, if multiple doses of IM medication are needed, repeated restraint – seek senior advice

https://www.scie.org.uk/mca/dols/at-a-glance/

RELEVANT GUIDELINES

SIGN Guidelines

https://www.sign.ac.uk/our-guidelines/risk-reduction-and-management-of-delirium/

NICE Guidelines

https://www.nice.org.uk/guidance/cg103/chapter/Recommendations

NICE QUALITY STANDARDS FOR DELIRIUM

Delirium in adults (QS63)

List of quality statements

Statement 1. Adults newly admitted to hospital or long-term care who are at risk of delirium are assessed for recent changes in behaviour, including cognition, perception, physical function and social behaviour.

Statement 2. Adults newly admitted to hospital or long-term care who are at risk of delirium receive a range of tailored interventions to prevent delirium.

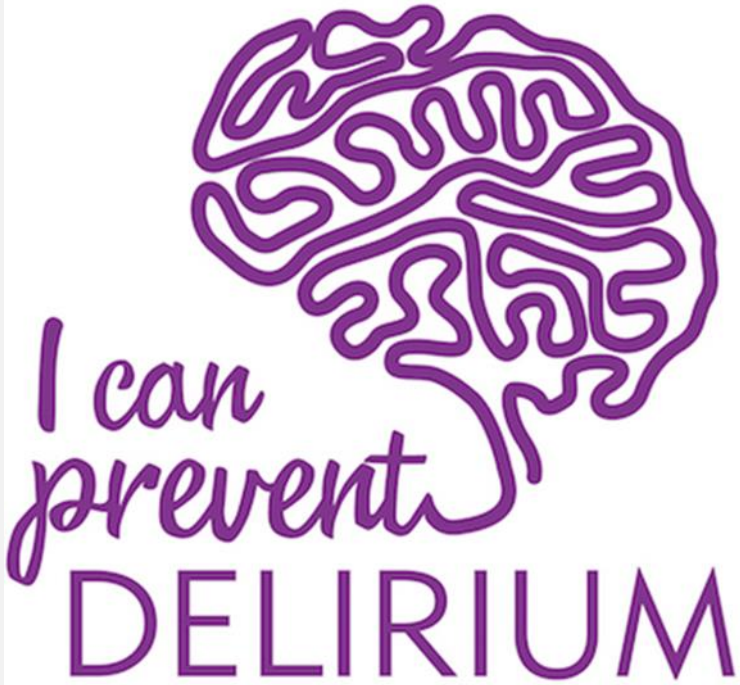
Statement 3. Adults with delirium in hospital or long-term care who are distressed or are a risk to themselves or others are not prescribed antipsychotic medication unless de-escalation techniques are ineffective or inappropriate.

Statement 4. Adults with delirium in hospital or long-term care, and their family members and carers, are given information that explains the condition and describes other people's experiences of delirium.

Statement 5. Adults with current or resolved delirium who are discharged from hospital have their diagnosis of delirium communicated to their GP.

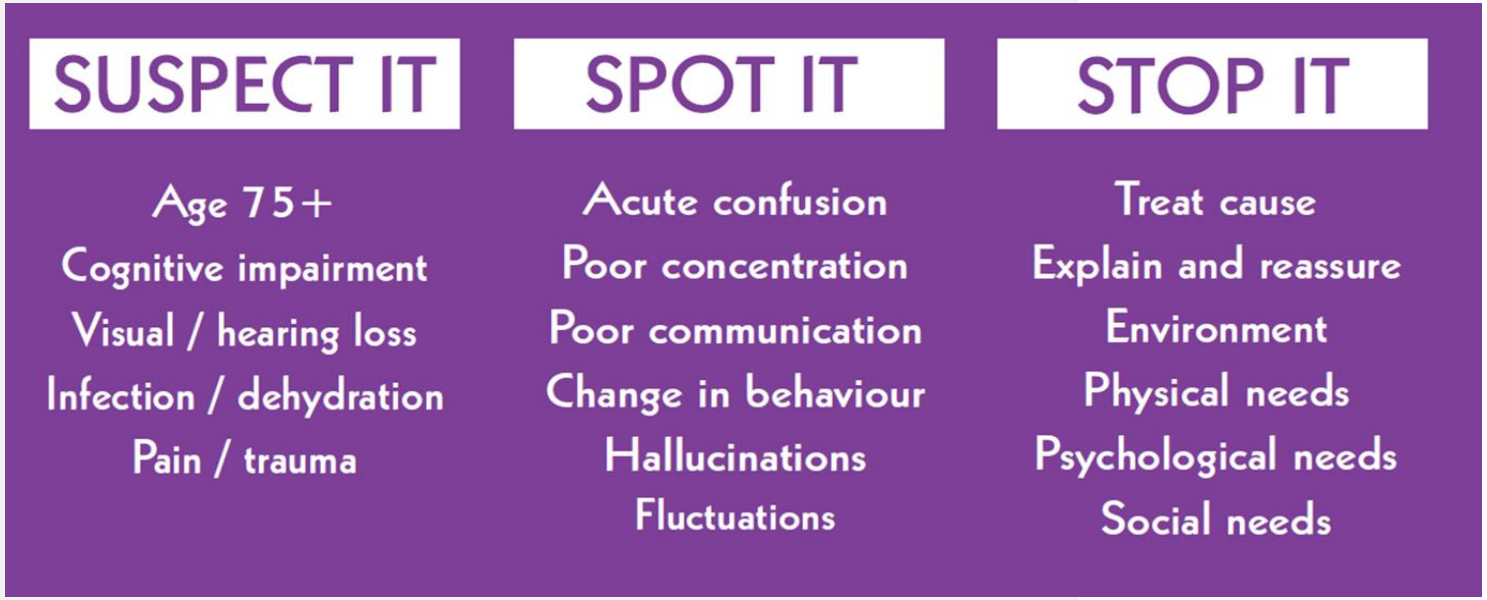
FOLLOW UP

- An episode of delirium can be indicative of underlying neurodegenerative process
- Delirium can take months to fully resolve
- Patients and carers are often highly distressed by experiences
- Currently we advise GPs to review in 8 weeks with referral to memory clinics if concerns re: ongoing impairment
- Local Community Frailty hubs and General Geriatric clinics at ASPH
- Be aware of your local pathways



SUMMARY

- Delirium is important! It is common, it is underdiagnosed, it kills, and can leave one with a horrible experience and it is expensive.
- We can do a lot better – suspect, spot and stop it.
- If possible, avoid sedation and if in doubt contact the appropriate specialist
- Follow up and support!



USEFUL REFERENCE LINKS

https://www.bgs.org.uk/topics/delirium

https://www.bgs.org.uk/resources/14-cga-in-primary-care-settings-patients-presenting-with-confusion-and-delirium

https://www.england.nhs.uk/north/wp-content/uploads/sites/5/2018/12/Delirium-curriculum-for-acute-hospital-staff-v4.0-final.pdf

https://cks.nice.org.uk/topics/delirium/background-information/prevalence/

https://www.the4at.com/

https://www.acbcalc.com/

https://www.scie.org.uk/mca/dols/at-a-glance/

https://www.nhs.uk/conditions/social-care-and-support-guide/making-decisions-for-someone-else/mental-capacity-act/

https://www.rcpsych.ac.uk/mental-health/mental-illnesses-and-mental-health-problems/delirium

https://www.mayoclinic.org/diseases-conditions/delirium/symptoms-causes/syc-20371386

https://rightdecisions.scot.nhs.uk/collections/collection?name=managemeds-polypharmacy

https://www.youtube.com/watch?v=BPfZgBmcQB8

THANK YOU

BE A DELIRIUM SUPERHERO

@EnwerePeter